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FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

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OCTOBER, 1942

Vol. 95, No. 10

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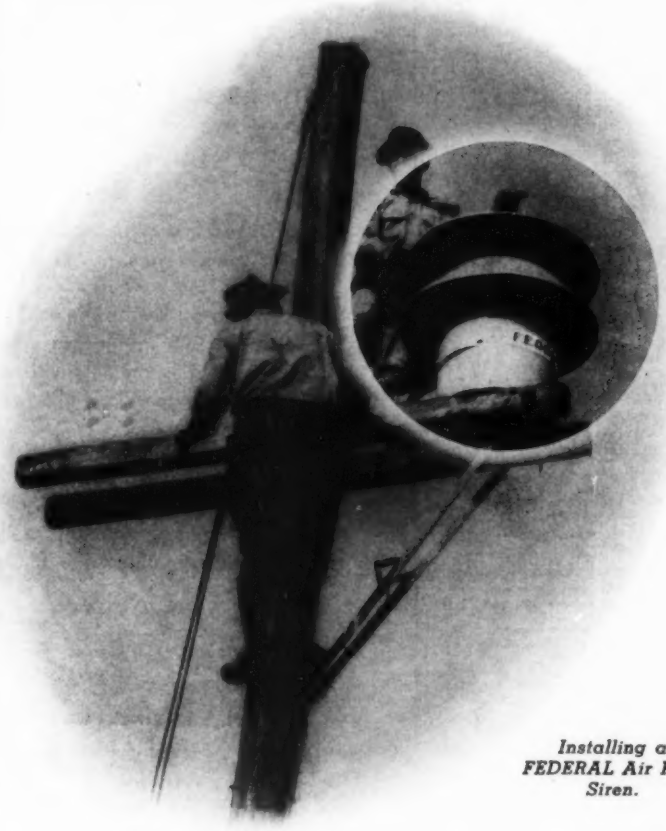

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FIRE ENGINEERING

A Consolidation of Fire and Water Engineering, The Fire Engineer and Fire Protection

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FRED SHEPPERD
Editor
N. H. WOLPERT
Assistant Editor

"Like One of the Family"

—says this Chief

WE rejoice in the number of loyal friends we have throughout the field. We hear from many of you and wish we had space to reproduce more of your letters in these pages.

● The following paragraphs from a recent letter seems typical enough of the many to justify our quoting it here:

● "Enclosed find my subscription for another year of your valued journal. This is the 16th year I have been a subscriber. As I have often told you, as long as I am in the fire service I must have this monthly visitor in my office. I'd feel lost without it!

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The Publishers

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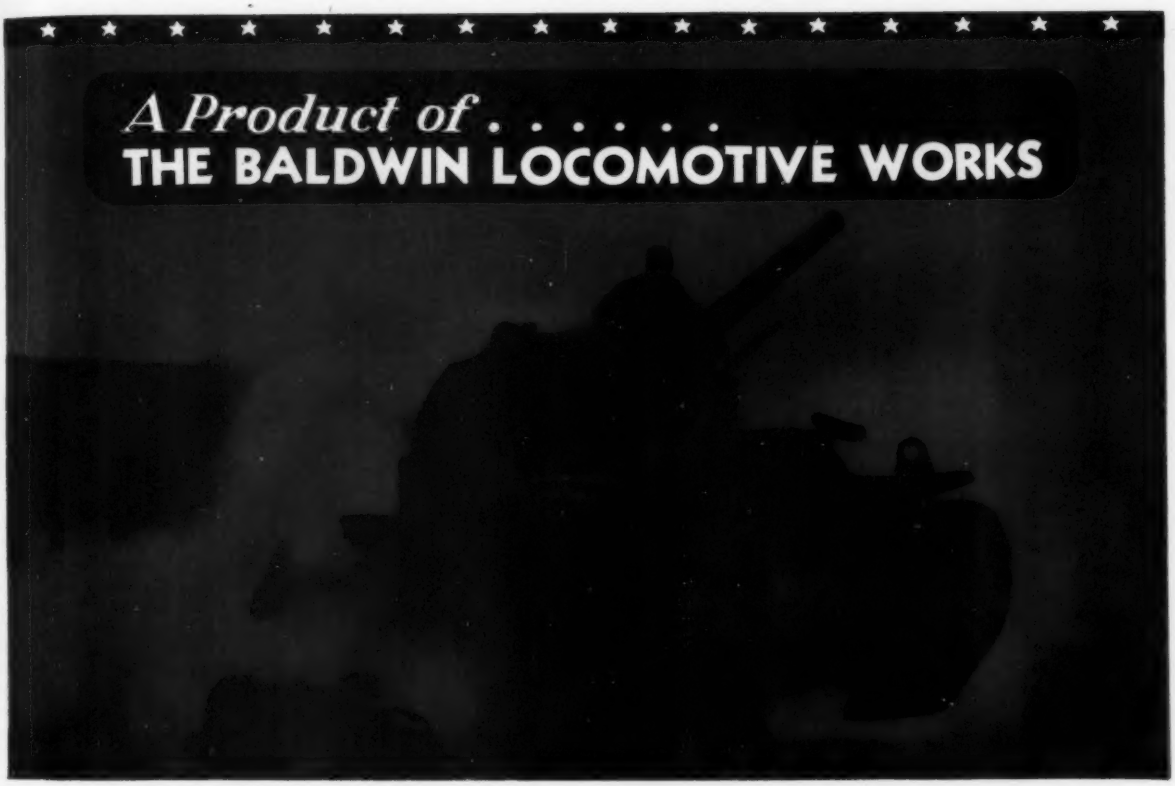

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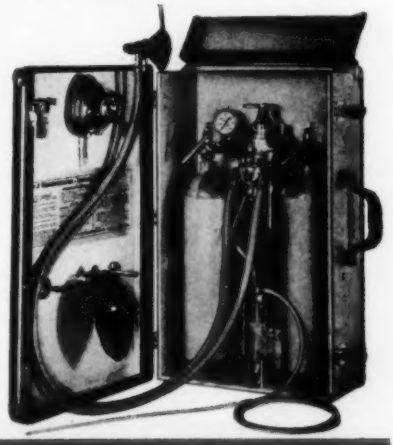

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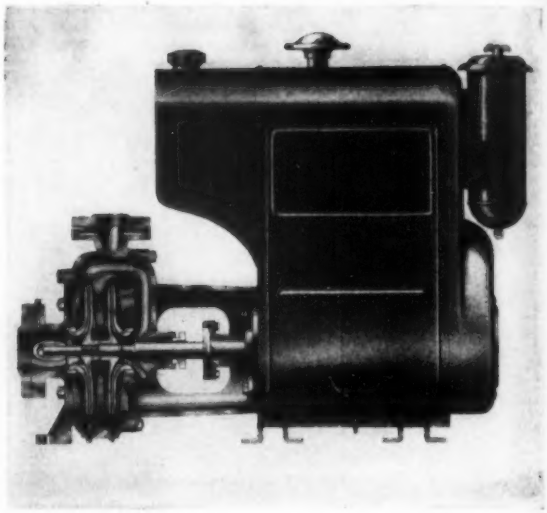

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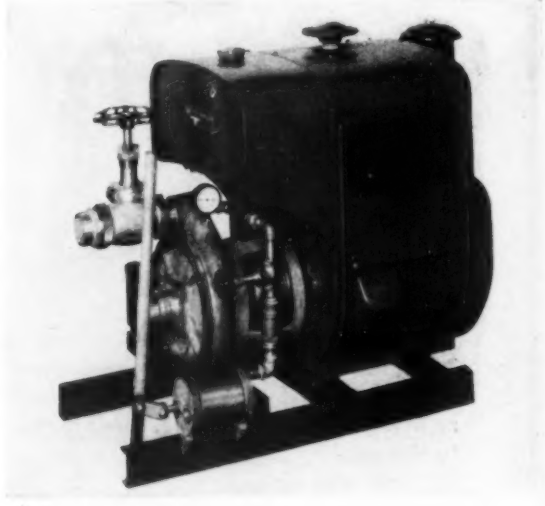

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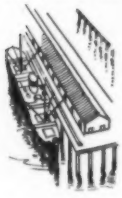

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The record is replete with instances where the Fire Department was not promptly notified—a delay of 15 minutes in the case of one of the greatest steamships afloat; a delay of 6 minutes or more in the case of a fire which destroyed rubber and buildings valued at $11,000,000.00; and 16 minutes delay in the case of a waterfront fire destroying a million dollars in property value are typical cases.

The Fire Department may be called (1) by the fire alarm box, (2) by telephone, or (3) a messenger may run to the nearest fire station frequently a mile or more distant from the scene of fire. Time, however, is the vital factor when fire is menacing human life and destroying property and the Fire Alarm System, according to all authorities, provides the swiftest and most dependable means of calling the fire department.

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Scarcity of materials renders expansion of Signaling Systems difficult—but the effective use of all existing boxes should be encouraged. Their purpose and locations can be made known to all citizens—and the preparation of plans for the future expansion of this vitally essential protection can be immediately initiated.

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OCTOBER, 1942

FIRE ENGINEERING

VOL. 95. NO. 10

With the Editor

Stumbling Along

The Office of Civilian Defense continues to operate true to form. The latest blunder in connection with their fire protection activities is the furnishing of hose, with couplings which do not fit local hydrants, apparatus and hose, to numerous cities throughout the country, New York and Philadelphia included. Transportation problems are difficult enough today without adding to them by needlessly shipping hose hither and yon to match up couplings. Furthermore, cities do not always receive their supply of hose from the nearest factory producing it, thus requiring increased transportation on already overcrowded facilities.

* * *

In an address delivered by James M. Landis, Director of the O. C. D. at Charleston, West Virginia, on September 29, he stated:

"During the past nine months since Pearl Harbor, the possibility of attack on American shores has not grown less; it has increased." And in those nine months the O. C. D. has furnished no stirrup pumps, the first line of defense against incendiary bombs, to cities; in fact none was built. Nine months is a long time to tempt fate! Why all this delay, if attack is imminent?

* * *

The change in method of extinguishing incendiary bombs was recently recommended by the O. C. D. Offered without any plausible excuse, the order to us solid streams rather than spray (fog) on magnesium bombs has created confusion among fire fighters and instructors. Because no acceptable reason for the change has been given, firemen are prone to believe the O. C. D. is merely satisfying a whim in offering the new procedure. On the basis of past performance by the O. C. D., the fire fighters are not convinced the change is imperative just because the O. C. D. says so. It seems to us that the O. C. D. should have taken the fire service into its confidence and have told the reasons for the change; should have told of any

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change in procedure of bombing by the enemy, change in types of bombs employed, etc., that would warrant a change in method of extinguishing the bombs. The recent unjustified complaint by the head of the O. C. D. that fire departments were not cooperating in training of auxiliaries is still fresh in the memory of the fire service, and it has not the faith, the confidence in that organization so vitally necessary today. Can the fire service be blamed for skepticism?

* * *

The O. C. D. is about to embark on a program of training professional firemen. We might suggest that fire schools and firemanic training are not a new discovery. As a matter of fact, most professional firemen are very well trained today. It might be well for the O. C. D. to check with fire departments on their local training methods, so that they will not be expected to undo the work of years in adopting the O. C. D. brand of evolutions. Any suggested course of instruction must be sufficiently flexible to fit around local methods of doing things, to take full advantages of past training. Better not again try to fit a 7½-thread coupling to an 8-thread one!

It Would Be a Commendable Move. We learn from reliable sources that later this month Chief Roi B. Woolley may join the Office of Civilian Defense as Chief of Fire Defense Organization and Coordination Unit. This would be a most commendable appointment, for Chief Woolley is a thoroughly capable fire protection engineer.

His outstanding work as organizer and President of the Westchester Fire Chief Emergency Plan is evidence of his ability in fire defense organization.

Not only has he the capabilities and energy to handle this assignment, but he has an intimate knowledge of the fire service both professional and volunteer, and what's more, the confidence of the fire service. That he would have in his new position the fullest cooperation of the various organizations in the fire protection field is certain.

If the report is correct, it is encouraging that the O. C. D. is at last getting a man to head up its fire protection activities who is so well qualified for that huge task. It would be a major step in the right direction.

Fred Sheppard

Sirens at San Quentin*

By BOB GREENOCK

BLACK smoke belched skyward and the red flames licked greedily at the shed as if they knew there were more than 200 52-gallon drums of oil in it.

Left to Right Are Kid McCoy, Matt Schmidt (Since Released) and an Unidentified Civilian

Motorists on U. S. 101 in Marin County, California, just about 20 miles north of San Francisco and the Golden Gate, pulled to the side of the road muttering, "Boy look't her go. She's a goner for sure!"

But they didn't reckon with the men on the two pieces of red fire equipment that came speeding six miles down the highway, sirens screeching and bells ringing.

When the chemical company pulled up to the fire, two of its men led in with the chemical line while the other man dumped the tanks. He then ran over to the pumper which had just pulled up and aided the men on it to lead out while the driver raced down to a nearby creek and went to suction.

Soon the big line was thrashing and wiggling. The men didn't stand outside and fight the fire—they led into it. There were plenty of comments from the onlookers, some of whom were helping to drag hose, at that.

A little while later, one fireman came crawling out of the inferno dragging the unconscious form of another. A safe distance from the flames, he placed the unconscious figure in the proper position, began to give artificial respiration. It wasn't long until the smoke victim was back in there with his comrades.

When the firemen emerged after the victory was theirs, the crowd of Sunday drivers gave a round of approval. But it wasn't until the pumper came backing up to be loaded with wet hose for the return trip that they noticed the big, gold letters on the hood. They said: "Calif. State Prison. San Quentin."

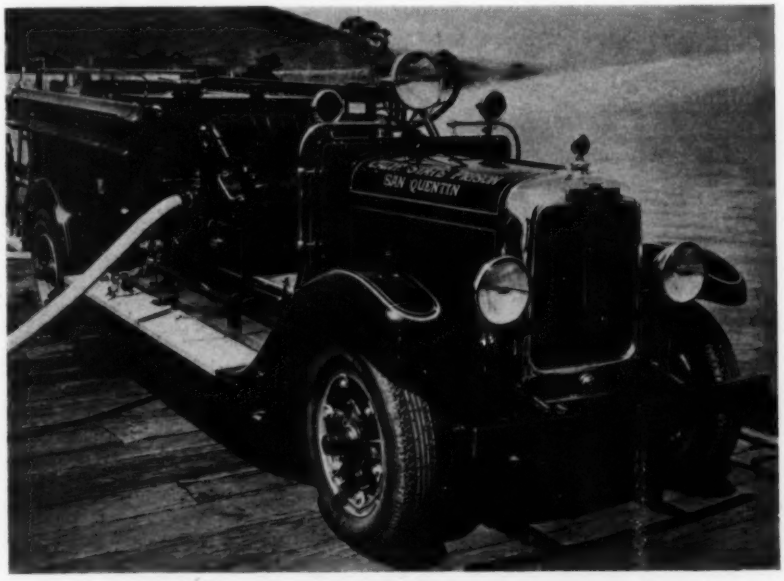
An excited hubbub ran through the crowd. Surely, those men, those firemen who had just done such a swell job couldn't be convicts, inmates of San Quentin.

But they were. That is, eight of the nine were. Not only were they inmates but they were lifers, and between them, they represented more than 100 years of prison time served.

The other man was George Mantlow, Chief of the San Quentin Fire Department for the past six years. Formerly an Army sergeant and a captain of the guards at the famous prison, Mantlow took over after Ollie Olson went to tending the prison switchboard on the MacArthur shift —midnight to 8 a.m. But more of that later.

Qualifications for Firemen

To get on the fire department, each inmate had to have ten years and a



American-LaFrance Pumper on Wet Drill at San Quentin Waterfront

*Facts and pictures for the above story were furnished by John P. O'Brien, former inmate fireman at San Quentin Prison, through permission of Warden Clinton Duffy—the Author.

clean record under his belt as well as a recommendation from the Captain of the Yard and his department head before the warden, now Clinton Duffy, famed penologist, would appoint him. Then there was the trifling matter of being in good health, at least 150 pounds and five feet eight inches tall.

The firehouse at San Quentin is a stuccoed frame building, two stories in height. It is situated near the warden's office in the block-long space between the gate to the reservation and the "front gate" to the prison. There are the usual sleeping quarters upstairs, brass poles, and an apparatus floor with a special bedroom down there for the chief. All the men, with the exception of the chief, sleep upstairs.

The firemen stand watch at the desk from 6 a.m. until 6 p.m. The chief takes any night calls.

Apparatus consists of a pumper and a chemical truck. The pumper is capable of delivering 572 g.p.m. The chemical has two forty-gallon soda-acid tanks.

The pumper carrries 1100 feet of 2½ inch hose, 150 feet of two-inch "house lines," a 150 gallon water tank, 200 feet of booster hose, a forty-foot extension and a ten-foot roof ladder.

The chemical carries 900 feet of 2½ inch hose, chemical line, two ladders and 150 feet of two-inch hose.

In addition, each rig carries 2½-gallon extinguishers, axes, picks, shovels, brooms, fittings and other small equipment, including eight gas masks—which make the firemen the envy of the "gas house gang," as Jack O'Brien puts it. They use the lethal chamber now at San Quentin.

Here Are Two Caterpillar Tractors "Souped Up" for a Special Test. They Are Fitted with Auxilary Pumps

The men are equipped with regulation coats, bunkers, boots, helmets, gloves, belts, etc. Both rigs roll on an alarm with the pumper leading the way, manned by five men and the chief.

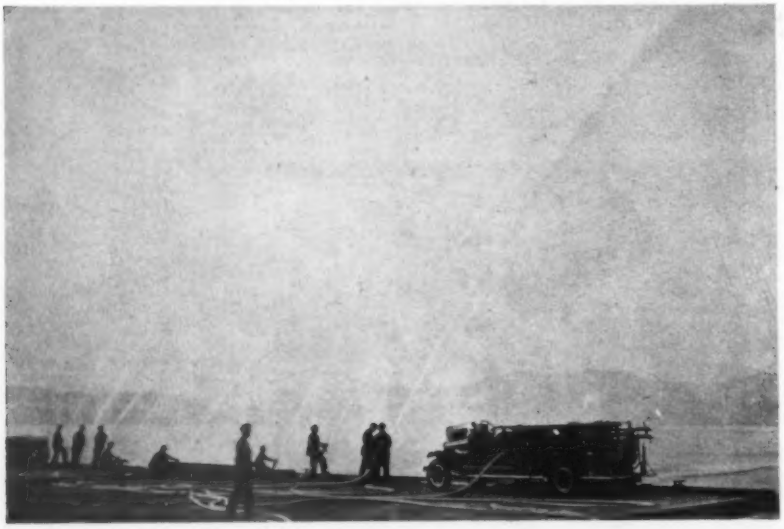
House lines and extinguishers are widely distributed throughout the reservation. Hydrants have a standing pressure of fifty-eight pounds. In addition there are two booster pumps, one, a 100-g.p.m. stationary, is inside the walls; another is capable of 1,000 g.p.m., and is located in the town of San Quentin, just outside the walls. It is manned by two lifers.

Alarms are given by telephone to the switchboard operator who in turn relays them to the fire department. The guards in the eighty-odd towers on the reservation act as fire lookouts. When an alarm is transmitted, the big siren, used only for signaling an escape or a fire, is sounded.

The pumper and chemical are the only pieces of automotive equipment allowed to go out the reservation gates without search by guards there! Even the warden's car and cars belonging to other officials are subject to search before they roll out.

The little department protects not only the prison proper but the "valley" where there are more than eighty five-room cottages occupied by guards and their families, the "uptown" section where the warden and parole board members have their residences, and the town of Point San Quentin, outside the front gates. In addition, the boys roll on grass and other fires as far away as twelve miles from the gates. San Rafael and other towns have offered assistance on several occasions, but the boys were always able to decline, with thanks.

In 1931 someone decided the fire department had to reorganize. Ollie Olson was named chief and immediately put in several months with the San Francisco department, riding and working with the various companies and studying methods used. When he got through, he wrote a drill manual for the S.Q.F.D. that is used today.



The Pumper and Crews Are Going Through "Wet Drill" and Throwing Eight Streams with the Help of the Caterpillars

Routine of the Day

The day's work for the firemen begins at 5:45, when they turn out. The chief gives his orders for the day, assigning each man to certain household duties, which are rotated. When the early tasks are completed, four of the men go inside the prison

to the mess hall for breakfast. When they return, the other four go. Should there be an alarm while one crew is at breakfast, the four men on duty roll with the pumper, the other men are picked up by a State car, hurried back to the firehouse where they follow the pumper on the chemical.

When the men return from breakfast, the major tasks of the day are begun. Apparatus is polished, everything is put in order. Then the trucks roll out for the morning drill. As they roll up to one of several spots used for drilling, the chief calls out the number of the drill they are to do and away they go, each man at his post.

On wet days, there are classroom activities, such as first aid drill, knot tying, net jumping, gas mask drills, etc.

After morning drills are over, the men are allowed to read books sent out from the prison library, tend to the gardens that surround the house, walk up and down in front of the house within hearing distance or in any other way that does not violate any of the rules.

When a fire call is received from the telephone operator, he touches things off by sounding a large gong, recalling all men to the apparatus floor. As soon as the man on watch gets the location, away they roll. Trucks are washed and cleaned after each fire.

Firemen's Privileges

Firemen are not allowed to attend the ball games at the prison but are allowed to go to the movies, four at a time. They get a bonus of an extra meal after the regular supper hour if they have a run at night that gives them a workout. They get better meals at supper than the average prisoner and also receive four sacks of cigarette tobacco (and five boxes of matches) per week. Incidentally. there are no locks or bars on the doors or windows of the firehouse and, proud of the job they are doing and the trust put in them, none has ever attempted escape.

One week every three months is spent in checking equipment distributed throughout the prison and in recharging all extinguishers.

One of the guards, George Fitzgerald, acts as an assistant to Chief Mantlow and has full charge of fire inspections. He has two short-term inmates who aid him in inspecting hydrants, oiling them and doing the other maintenance jobs necessary.

There are two huge reservoirs on the reservation. One with fresh water holds 2,250,000, and the other, with salt water, 800,000. Then, of course, San Francisco Bay is mighty handy.

Since Pearl Harbor, a score of extra men have been trained. All are short-termers to lessen the chance of their desire to make a dash for freedom. They are escorted by five guards who take them from their cells to the firehouse as soon as a blackout or air alarm is sounded.

When the blackout signal is received, the jute mill whistle blasts loud and long and two sirens placed at opposite ends of the reservation wail the fluctuating air raid alarm. The pumper, fully manned, races to the front gate and the chemical to the back gate. They stand by with regulars and extra firemen ready to fight fires started by incendiary bombs. When the all clear sounds, they return to quarters.

Present Administration Popular

Most of the men in the famous prison count time as "B.D." and "A.D." which, to them, means "before Duffy" and "after Duffy." Warden Clinton Duffy, widely known for his humanitarian treatment of the men and his continuing fight to rehabilitate them, is highly respected by the men as a whole and his coming has made great changes in the prison.

It has meant a difference to the firemen, too. They get better meals now than they used to, for one thing. Before present food conditions existed, the men used to make for the back door of the flaming house, and raid the icebox as they went to work. Now they don't have to for they are well fed.

There have been some widely known men on the S.Q.F.D. at one time and another. Among them was the famous Kid McCoy and Matt Schmidt, who is now a free man. Schmidt served twenty-two solid years on a charge of helping the McNamara brothers blow up the Los Angeles Times building at which time some twenty-nine persons were killed.

It can be easily understood that men with time on their hands (the theme song played by the prison orchestra on the Mutual-Don Lee network during a recent thirteen-week half-hour show was "Time On My Hands.") look forward to a little action now and then and while none of them fall into the category of firebugs, they certainly are fire fans.

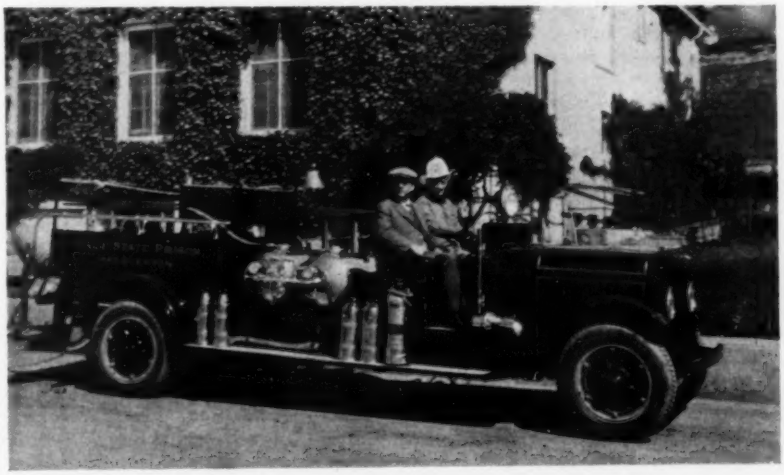
Some Novel Experiences

It's not hard to understand how strange, and sometimes humorous things happen in the S.Q.F.D.

Jack O'Brien tells of the time there had been a quiet period for many moons. Shortly after supper time, a call came in. As the men raced to the rigs, a second call for a different fire came from the operator. The pumper was sent to the second, the chemical to the first. As luck would have it, both were small fires and both rigs and crews cleaned up in short order, arriving back at quarters simultaneously. Just as the drivers were backing the rigs in, there came a third call. Both rigs pushed out and in short order had the third fire under control. Jack says they still talk about that "three-alarm hour."

On another occasion, O'Brien recalls using a hand pump with such great care on a fireplace that had backfired that the lady of the house (a guard's wife in the town of Point San Quentin) asked him to splash the fluid around a little more and not be so careful. "We've been try-

(*Continued on page* 640)



Combination Hose and Chemical Wagon with the Original "Kid McCoy" at the Wheel

Ontario Cities Need Protection

Some of Apparatus Over Forty Years Old; Two Fifty-Year-Old Ladder Trucks Still in Use

By W. J. SCOTT*

IN 1941 Canada's fire loss was $28,000,000, an increase of $5,300,000 over the previous year. At any time such a loss as $28,000,000 is a tragic waste of national wealth; in time of war it is a waste that is almost criminal.

Ontario's share of this waste by fire was $8,700,000. In Ontario is centered much of Canada's war industry which is so vital to the success of the Canadian soldiers overseas. Ontario in 1941 had an industrial fire loss of $1,420,000, and in the first quarter of 1942 the fires in industry amounted to $720,000, more in this three months period than in half a year in 1941.

90 Per Cent of Fires Due to Carelessness

Canada's war effort is being sabotaged from within, not by enemy agents or hirelings but by the carelessness and indifference of our own people to the hazard and waste of fire. As a nation we are reckless as to fire, for the cause of 90% of our fires is preventable carelessness. And many of these fires that do start would have had the loss cut to half or less if there had been proper fire fighting facilities. It is in this last regard that the municipal councils have been and are still failing to do their part to remove the mill-stone of fire waste from off the neck of Canada's war effort.

Disregarding almost entirely the fact that fire has been one of the main enemy weapons in this war, that in Britain the loss by fire from enemy attacks has been much larger than the loss by high explosive bombs, that here in Canada we are much more vulnerable to damage by enemy incendiary bombs and to fires set by saboteurs, there is hardly a municipal fire department in Canada that today is in as good a shape as far as apparatus and personnel is concerned as it was at the outbreak of the war. If there is such a municipality, I venture to suggest that its standard is in a large measure due to equipment donated to it by the federal government through its ARP branch and to citizen volunteers enrolled as ARP auxiliary firemen.

To give an example of the lack of municipal appreciation of the importance of fire protection, let us turn to what the Ontario municipalities having organized fire brigades did for themselves in 1941, after more than a year of the war, when the tragic waste by fire and its possible disastrous consequences should have been apparent to all. Remember further that this was after the Federal ARP Officer had been urging better fire protection for over a year, after the Ontario Fire Marshal's Office had been stressing the need continually, and after even the British government had sent one of their leading fire officers touring all through the province, under the auspices of your Federation, to tell of the vital necessity of proper fire protection. Of Ontario's 1,300 municipalities, only a little over 300 have any organized fire department at all. These 300 odd municipalities having fire brigades bought a total of twelve pieces of motorized fire apparatus in 1941. And of these, nine were sub-standard pieces of fire apparatus.

All Apparatus—261 Municipal Fire Depts.

Age	No.	%
0- 5 yrs.	93	16.3
6-10 "	68	11.9
11-15 "	136	23.8
16-20 "	132	23.1
21-25 "	72	12.63
26-30 "	24	4.21
31-35 "	27	4.73
36-40 "	2	.35
41-45 "	5	.87
46-50 "	7	1.22
Over 50 "	4	.701
	570	

The above figures for the age of Ontario fire apparatus are from a special survey of the fire fighting equipment available in this province by the Fire Marshal's Office on behalf of the Ontario Civilian Defense Committee. A tabulation giving the details of this fire apparatus survey is given a little further on in the discussion. The tabulation is for 261 municipal fire departments, and with the addition of three municipalities who have subsequently sent in returns which do not substantially alter the percentages, it covers every city and town in Ontario of 2,500 population or over, along with many smaller places. The 570 pieces of fire apparatus listed are the fire-fighting equipment to protect over 2,400,000 men, women and children, and their homes and their places of business.

May I ask the members of this audience how many of them are driving automobiles that are more than 10 years old? Or how many of you in your private businesses are using motor trucks purchased in 1932 or earlier? Yet nearly three-quarters of the fire apparatus in Ontario, to be exact 71.8%, was purchased in 1932 or earlier. Fifteen years is the generally-accepted limit for the reliable lifetime of fire apparatus, but 48% of Ontario's fire apparatus is more than 15 years old.

24.9 Per Cent of Fire Apparatus More Than 20 Years Old

How many of the mayors at this gathering would have been willing to drive from their home town or city to this meeting in an automobile more than 20 years old? Would they have felt certain that they would arrive safely and on time? Yet for the protection of the lives of their citizens and the safety of their properties and the preservation of their war industries, the municipal councils of Ontario are content to have 24.9% of their fire apparatus more than 20 years old.

If some people feel that an automobile is still frisky on its 21st birthday, just because it has mounted on it a fire pump or carries fire ladders or hose, let us think back to the kind of vehicles we had prior to the last war. Think of them and then think of the fact that 44 pieces of apparatus, or nearly one-tenth of the fire-fighting equipment of the province, was manufactured in 1912 or earlier. On this tabulation is listed the apparatus still in service that was first bought in 1900 or earlier, and with the subsequent returns that have come in it is worth noting that ten pieces of apparatus are fifty years or more of age.

It is not just some small villages

*Fire Marshal of Ontario, Canada. From an address before the annual meeting of the Federation of Mayors and Municipalities at Ottawa, May 27, 1942.

that rely on such ancient fire apparatus. Take for example the City of Brantford, whose fire department for the last three years in succession has won first place in the Dominion fire prevention week contests and whose fire chief has recently been chosen to head the Corps of Canadian Fire Fighters for Great Britain. Brantford's only aerial truck was made in 1892, fifty years ago. To rescue citizens from fire in their three and four story buildings, and to fight fires in these, Brantford has only this 1892 aerial and a ladder truck whose tires are ten years old and whose engine is 22 years old and has twice in recent months failed while answering fire alarms.

Fifteen Years Limit on Apparatus

In the paragraphs above, it is to be noted that no attempt has been made to set an arbitrary limit on what is the useful lifetime of a piece of fire apparatus, but the number of years of service is some guide as to what can be expected of it from the viewpoint of "complete reliability," which is quite distinct from "useful." Obviously the state of repair is a major factor in how long any apparatus is useful. As far as pumpers are concerned, speedometer mileage is no guide, for after a mile trip to a fire, the pumping engine may operate under heavy load for ten hours straight running without this showing on the speedometer. The generally-accepted opinion in fire circles is that fifteen years is the limit at which fire apparatus can be considered completely reliable, having regard to the fact that motorized apparatus deteriorates while standing around about as fast as it does with moderate use. This period can be extended by completely replacing all rubber, including tires, engine mountings, etc., all electrical wiring and equipment, including starting motors and generator, and checking all fabric or leather for deterioration and the circulating system and exposed parts for corrosion. Again, apparatus over 20 years old, unless rebuilt, does not have 4-wheel brakes, modern steering ease and lower centre of gravity, and is frequently unsafe to try to use at high speed in today's traffic conditions. Therefore sole reliance should not be placed on apparatus over 15 to 20 years old, particularly pumpers, but such apparatus should be considered as second line equipment, not scrapped but used in lower hazard areas or put in reserve.

In the matter of personnel too, Ontario municipalities have failed in many instances to maintain pre-war standards, and in almost all cases have refused to do anything about the increased population the war has brought to many places and the increased and unusual fire hazards of many war industries. Even though Ontario municipal councils disregard the possibility of enemy incendiary bombs here, and are the successors of Pearl Harbor and Singapore in the chorus, "It can't happen here," comparatively few municipal councils appreciate their responsibilities to maintain an adequate and trained personnel. Often vacancies caused by enlistments or the drafting of younger firemen are left unfilled, instead of increasing the number on the brigade in line with today's increase in the importance of fire protection. To give some Ontario examples, in 1933 Toronto had 697 firemen and now has 656, Hamilton had 205 and now has 184, Ottawa had 181 and now has 167, and London had 91 and now has 83. A further example of the disregard of war needs is Kingston, with a much greater population, new and very important industries, and very large military and Air Force camps. In 1933 Kingston had 31 firemen, and my latest figures show they now have 25. This failure to maintain personnel, even though most persons will agree that fire is the major possibility of serious interruption to the war effort in Canada, is not only in Ontario.

This fire protection situation of many Canadian municipalities is a case at the present time of gambling with Lady Luck and in the event of bombing by enemy planes, one which would lead only to disaster. It is true the ARP preparations would be of help if and when enemy air attack comes, but the ARP Auxiliary Fire Services are designed as a supplement to the regular fire brigade and not as a substitute. It is surely not unreasonable to suggest that at least municipal councils should maintain peace-time standards.

Draft Makes Inroads on Personnel

Admittedly the situation is not an easy one for the municipal councils. As to men, with enlistments and the draft, it is hard to keep present personnel. But the problem is not made any easier by failing to fill vacancies with the best men available, or by failing to increase the staff when there are increased responsibilities and hazards. Similarly, as to apparatus, it is not easy today to obtain the necessary priority ratings to purchase fire apparatus. Many municipalities will find that they are entirely too late in awakening to their need, and will have to get along as best they can with what they have. But priority certificates are given only on application when orders are being placed, and councils must first act before they can hope to get new fire apparatus.

In conclusion, may I urge upon every mayor here, or who is a member of this Federation, that he review carefully the fire protection situation in his own municipality in the light of today's needs, and that he act at once to take all necessary steps to give every protection possible so as to avoid the responsibility for any fire disaster being placed squarely on the shoulders of the municipal council.

Ontario Fire Apparatus

PUMPERS

Age	No.	%
0- 5 yrs.	57	21.3
6-10 "	33	12.4
11-15 "	66	24.9
16-20 "	72	27.2
21-25 "	24	9.05
26-30 "	6	2.26
31-35 "	3	1.13
36-40 "	2	.75
41-45 "	1	.37
46-50 "	nil	....
Over 50 "	1	.37
TOTALS	265	

LADDER TRUCKS

Age	No.	%
0- 5 yrs.	11	11.4
6-10 "	5	5.2
11-15 "	22	22.9
16-20 "	24	25
21-25 "	20	20.8
26-30 "	3	3.1
31-35 "	6	6.2
36-40 "	nil	....
41-45 "	1	1.04
46-50 "	3	3.1
Over 50 "	1	1.04
	96	

AERIALS

Age	No.	%
0- 5 yrs.	3	17.6
6-10 "	4	23.5
11-15 "	3	17.6
16-20 "	2	11.7
21-25 "	3	17.6
26-30 "	1	5.3
31-35 "	nil	...
36-40 "	nil	...
41-45 "	nil	...
46-50 "	1	5.3
Over 50 "	nil	...
	17	

HOSE TRUCKS

Age	No.	%
0- 5 yrs.	22	11.5
6-10 "	26	13.6
11-15 "	45	23.5
16-20 "	34	17.8
21-25 "	25	13
26-30 "	14	7.3
31-35 "	18	9.4
36-40 "	nil	....
41-45 "	3	1.57
46-50 "	3	1.57
Over 50 "	2	1.04
	192	

Oldest Apparatus Still in Service

Year	Equipment	Municipality
1890	Pumper	Mattawa
1890	Ladder Truck	Mattawa
1890	Hose Reel	Petrolia
1890	Hose Reel	Petrolia
1892	Ladder Truck	Orillia
1892	Ladder Truck	Picton
1892	Ladder Truck	Exeter
1892	Aerial	Brantford
1893	Hose Reel	Parkhill
1898	Hose Wagon	Paisley
1898	Hose Wagon	Paisley
1900	Pumper	Kemptville
1900	Hose Truck	Grand Valley
1900	Ladder Truck	Carleton Place

Practical Training For Auxiliary Firemen

By FRED SHEPPERD
Editor, FIRE ENGINEERING

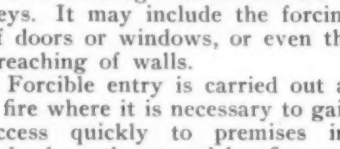
FORCIBLE entry, or forced entry, is the securing of entry to a locked building without the aid of keys. It may include the forcing of doors or windows, or even the breaching of walls.

Forcible entry is carried out at a fire where it is necessary to gain access quickly to premises involved, or threatened by, fire, and where other means of entering are not available. Frequently lives may be at stake and the maximum of speed in accomplishing entry is vital. Here forcible entry is doubly important.

The questions and answers which follow cover, first, the tools of forcible entry and, second, the technique of forcible entry.

Tools for Forcible Entry

Q. What is a pick head axe, and for what is it used?

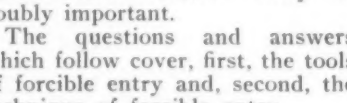


Pick Head Axe

A. Pick head axe (pike axe) is the most commonly used type of axe in fire departments. It has the advantage of the pick end for prying up flooring, but is not as convenient for opening heavy doors for it is difficult to strike the back of the head properly with another axe to force it between the door and the jamb, on account of the pick.

The pick is also used for removing brick, mortar and plaster.

Q. What is a flat head axe, and how is it used?

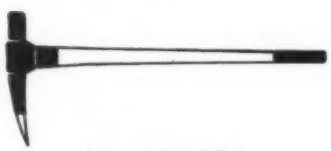


Flat Head Axe

A. This axe, which is quite similar to the pick head axe with the pick removed, is usually employed for cutting operations, such as opening up floors, walls, and roofs. It provides an additional advantage, due to its flat head, in that the head may be driven between door and jamb, by using another flat head axe or sledge, and thus aid in opening locked doors.

The flat head axe may also be used as a sledge for opening (breaking) deadlights, in connection with rivet cutters or other forcible entry tools.

Q. Describe a hammer head pick, and its uses?



Hammer Head Pick

A. This tool is used principally for removing flooring, and other services for which the ordinary pick is employed. It can also be used for pulling the walls and ceilings in small rooms such as clothes closets, where the large ceiling hook would be unwieldly. The hammer end of the pick may be used for driving an axe or door opener in behind windows, doors or shutters when opening up. The hammer head pick is also commonly employed for digging dirt, cinders, and concrete, and for removing planking, sheathing, or other boarding at fires.

Due to its flat head, it can be driven into hard materials by use of sledge, maul, or flat head axe.

Q. What is a claw tool, and how is it used?

A. This device is considered one of the most useful tools in the fire service for opening up locked doors, etc. If the bolt cannot be pulled, then the lock can be broken by putting the claw in the lock and striking once or twice with the back of an axe. The hook can be driven into lock staples to break the lock, and the other end, the forked end, is effective for lifting iron shutters, iron grates or hinges, and for twisting off locks in the same manner as the lock breaker. It is also useful for trimming off window casings and prying up flooring. In close quarters it is effective for pulling ceilings or walls. The claw tool is made in slightly varying shapes and sizes, but the most common design is illustrated herewith.

CLAW TOOL

The tool is effective for opening up for ventilation or for getting at fires in such a manner as prying up boards on the roof after the tin has been cut away, opening up window frames to disclose the interior, pulling metal ceilings, removing lath and plaster, opening wainscoting and baseboards, and even ripping off shingles.

For forcing doors inward, the fork of the claw tool is quite effective, being driven in between the door and the jamb and the door pried inward. Or where the door swings outward, it can be sprung slightly with an axe and the hook of the claw tool hooked over the top of the door and the tool raised upward to bring the door outward.

In prying up flooring, or roofing, after the sheathing has been removed, the claw tool is used quite similarly to an axe. However, the handle of the claw tool has greater strength than the handle of an axe so that there is no danger of snapping off the handle when prying heavy planking.

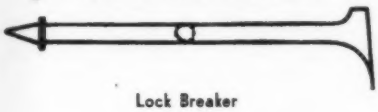
In prying up flooring of any sort, the fork end of the tool is driven in between the boards and the hook end of the tool forced toward the floor, lifting the board up. This same operation is used for operating on roofs.

In ripping down metal ceilings, the point of the tool is driven through the ceiling and the sheet metal thereupon is pulled down. For shallow ceilings, the claw tool is most effective as it requires but little space for operation, and the operator can stand on a table when working, if necessary.

The uses of the tool for opening rolling doors, windows, window frames, lifting iron shutters and opening lath and plaster, and wainscoting, and other common fire department operations suggest themselves.

In using the claw tool for opening iron shutters, care should be taken that when the shutter is pried off its hinges, it does not come sailing down and strike somebody in the street below. Before the iron shutter is lifted off its hinges, warning should be given to those below.

Q. Describe a lock breaker.



Lock Breaker

A. The lock breaker is an all-metal tool fitted on one end with an adz-shaped blade, and on the other end with a wedge-shaped point.

Q. For what purpose, and how, is the lock breaker used?

A. The lock breaker is used chiefly for forcing doors. The adz-type blade of the lock breaker is driven between the jamb and the edge of the door beneath the fastening or lock, and the handle drawn out. This springs the lock or bolt away from the catch. If this method does not succeed, then it is best to work at the hinges. Drive the same blade in between the door and the sill near the hinges and draw the handle out. The hinges will likely give. This tool is especially effective where there is little room, for it can be driven in with an axe, even if there is but little space for swinging. Iron shutters can frequently be opened by this tool by inserting the blade beneath the shutter and raising it off its hinges. Where the shutters are set in the wall, they can usually be pried far enough open with the tool to get the blade of an axe or other tool in to raise the catch. In the case of iron rolling shutters, insert the blade of the tool beneath the shutter and drive along until the fastening is located. Then drive the blade in to break the fastening. The other end of the tool is employed for prying up flooring, etc.

Q. What is a wrecking bar?

A. It is a metal bar bent at one end in the shape of a hook, this end of the bar having claws for drawing of spikes, or for ripping out boards. The other end is provided with a point, slightly curved, to be used as a short crow bar.

Wrecking Bar

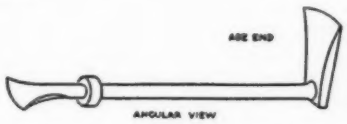
Q. What is the use of the tool?

A. This tool is used for prying, forcible entry and for wrecking purposes. Flooring, roofing and other boarding may be removed with the hooked end by first lifting one board with the other end of the tool, and then using the hooked end for lifting the other boards. It can also be used for forcing doors, prying open windows and otherwise accomplishing forcible entry.

Q. What is a Kelly tool?

A. The Kelly tool is a miniature lock breaker, fitted on one end with an adz blade, and on the other end, a flat blade.

Q. For what is the Kelly tool used?



Kelly Tool

A. The Kelly tool is used in very much the same manner as the lock breaker in opening doors, and it is also employed in the same manner as the wedge end of the claw tool. In opening doors with this tool, the adz end is driven in with the back of an axe between the door and the jamb, and the other end is pulled outward until the door is sprung open.

As the Kelly tool is but a couple of feet in length, it is very handy for working in close quarters, and is particularly useful in opening windows, doors, etc., for working from ladders, fire escapes, or within buildings.

Q. What is a buster bar?

A. The buster bar is a small forcible entry tool consisting of a

Buster Bar

handle, bent point and a solid piece, attached to the bar at the base of the point, and which serves as fulcrum for applying leverage.

Q. What is the purpose of the buster bar?

A. This tool is widely used for forcing doors, windows, and other openings where heavy construction is not encountered. The pointed end of the tool is inserted in behind the jamb of the door and the fulcrum is placed on the heavy portion of the door. By pushing inward on the handle, considerable leverage is produced, forcing the door to slip its lock.

It may also be used for forcing windows, shutters and other coverings of doorways and windows.

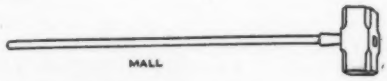
Q. What is a jimmy?

A. A jimmy is a forcible entry tool consisting of a metal bar, either eighteen or twenty-four

inches long, and fitted on each end with a bent, pointed, terminus. Sometimes the jimmy is provided with a flat blade on either end, and in other instances, a flat blade on one end and a point on the other.

Q. For what purpose is the jimmy used?

A. The jimmy is widely used for forcible entry because of its simplicity. But it is a comparatively light tool, and cannot perform the heavy work done by the claw tool. It is employed in very much the same manner as the buster bar. The curved, pointed end is inserted between the door and the jamb and the other end pushed inward against the door, springing the door from its lock. The reverse operation is employed for opening a door which opens outward.



Q. What is a maul?

A. A maul is a heavy sledge, or hammer, commonly used for heavy forcible entry work in fire departments.

Q. Describe its use.

A. The maul is used for breaking concrete, bricks, window bars, rivets, deadlights and other materials. It is also employed for driving pointed tools into hard surfaces. One precaution must be observed in its use, especially where it is employed for opening up deadlights. Strike with a maul on an angle, for if it is used in

such a manner as to hit the deadlight squarely, it is possible that the head will crack off when the sledge head passes through the deadlight. Or if the head does not crack off, it is possible that the maul will be knocked out of the hands of the operator and do damage to someone below. By hitting at an angle there is practically no danger of cracking off the head of the sledge, nor its rebounding. The names maul and sledge are used interchangeably. If there is any material difference, it is that the maul head is usually larger and heavier than that of a sledge.

Q. What is a crow bar?

A. A crow bar is a steel bar, pointed at one end. The varieties of designs of crow bars are many. Some crow bars have the point end of larger stock than the handle, and squared. Others have a short enlarged section on the tool end with a heel at the point. Still others have a curved point. This latter type of crow bar is commonly known as a pinch bar, and is used chiefly for moving railroad cars by working the point of the bar between the rail and the wheel.

Crow Bar

Q. To what uses may a crow bar be placed by fire departments?

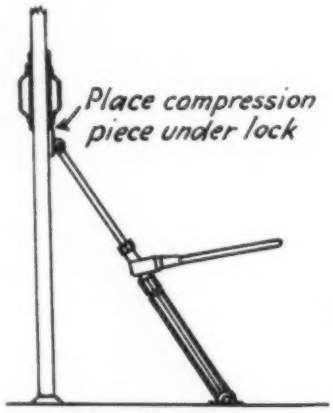
A. The crow bar is used for work requiring great leverage, such as for prying up heavy plankings, raising heavy weights, or in forcible entry where great leverage and strength of tool are necessary. For prying up planking, it is usually necessary to lift one plank by the use of other tools, and after this has been accomplished, the crow bar can be worked along the face of a beam to lift the remaining planks. It is particularly effective in prying up timbers and heavy debris at fires, as well as in demolition work after fires.

Q. Describe a Hale door opener.

A. A Hale door opener consists of a ratchet device actuated by a lever. The elements include a compression piece, which is attached to a compression rod, the latter being fitted into a cylinder or guide and moved by the operation of a lever which actuates a ratchet. This device is employed for forcing locked doors and locks.

Q. How does it operate?

A. The compression piece at the end of the compression rod is placed under the lock of the door, if possible, after making sure that the base of the tool has a firm footing. Operate the handle like that of an automobile jack until the



Hale Door Opener

door gives. If the floor is of concrete and the base of the opener slips, make a depression in the floor with the back of an axe to give the appliance footing. The compression piece should be placed in the solid part of the door. If it is set against the panel, the panel will likely be forced in without the door opening.

Q. Describe a Detroit door opener.

Detroit Door Opener

A. The Detroit door opener, like the Hale door opener, is a device for forcing locked doors. It consists of a compression piece, a compression rod and a bar somewhat similar to a crow bar. The compression rod is attached to the operating bar, or handle, by a hinged connection. The connection is made about six inches from the point of the bar. The compression rod is adjustable, of telescoping type, so that the compression piece may be placed under the locks of doors at different heights.

Q. How is the Detroit door opener operated?

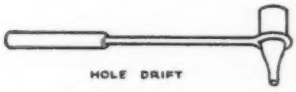
A. The compression piece is the tool that is placed under the lock while the lever handle rests on the ground. When the compression piece is set, using the telescoping compression rod to adjust it to proper length, raise the lever handle until the door gives. As noted above, the tool can be made to reach a lock any height from the ground by adjusting the inner piece which telescopes into the piece that is attached to the lever.

Q. Can the Hale and Detroit door openers be used on doors opening either out or in?

A. No. Each of these door openers is used on the outside only when the door opens inwardly.

Q. What is a hole drift?

A. A hole drift is nothing more than a punch, such as is used in the combination punch and chisel, and provided with a handle.



Q. What is it used for?

A. It is used for driving out rivets where the heads have been cut off, as well as forcing lock fasteners, staples and other catches which are employed in locking heavy plank doors from the inside. Ordinarily the hole drift and the rivet cutter are used together, that is, for the same operation; hence the practice of attaching the two devices to the same handle. This device will be described in the next installment.

Q. On what types of fires are Dugas (dry powder expelled by inert gas under pressure) extinguishers effective?

A. Dugas hand extinguishers are effective on incipient fires in ordinary combustible materials (class A fires); they are equally effective on smaller fires involving grease and oil-soaked floors, where the cooling effect of chemical reaction and smothering effect of generated gas may be utilized. They are effective on fires in inflammable liquids, greases, etc., in vats, open vessels, etc., where smothering effect of the gas is essential.

As Dugas is not an electrical conductor, it can be used on electrical fires of all types without danger to the operator and without damage to the equipment.

CATCH-ALL AT HYDRANTS USED AS RESERVE WATER RESERVOIR

Sufficient Water Available from these Devices To Recharge Fifty Fire Pumps or Stirrup Pumps

By Harry J. Callahan, Chief
Fire Department Training School, Detroit, Mich.

THERE have been occasions when it has been necessary for fire departments to construct emergency catch-alls at hydrants, using fire department equipment, to enable pumpers to draft water. Some of the emergencies which would require this would be: a damaged thread on suction, making it impossible to connect to hydrant; broken or damaged hydrant nozzle; or responding to another community where there is a difference in connections or threads on the hydrants, etc.

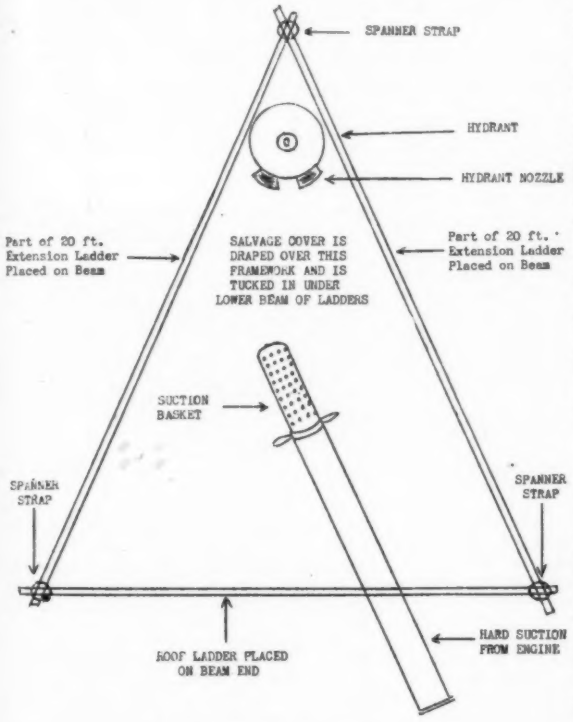
Now, however, the emergency catch-all can be used to a greater advantage in the event of an enemy air raid as a reserve water reservoir.

In the event of a bombing which would result in the rupturing of water mains, an alert signal, or when the pressure gauges in the various engine houses show a decided drop, these reserve catch-alls should be constructed and filled.

An eight by eight by seven foot catch-all, fourteen inches deep, holds approximately 2200 pounds of water. A sufficient amount of water would thereby be available from this type of catch-all to recharge more than fifty fire pumps or stirrup pumps.

The equipment used and method of construction of the emergency catch-all or water reservoir is as follows:

The standard pumper usually carries, as part of its equipment, a twenty-foot extension ladder, a roof ladder and several leather belts with spanners attached. This is all of the equipment necessary to construct the catch-all, with the exception of a standard size salvage cover or a fairly large hose cover carried on a pumper. The salvage cover is much more efficient, if available.


SPANNER STRAP
HYDRANT
HYDRANT NOZZLE
Part of 20 ft. Extension Ladder Placed on Beam
SALVAGE COVER IS DRAPED OVER THIS FRAMEWORK AND IS TUCKED IN UNDER LOWER BEAM OF LADDERS
Part of 20 ft. Extension Ladder Placed on Beam
SUCTION BASKET
SPANNER STRAP
SPANNER STRAP
ROOF LADDER PLACED ON BEAM END
HARD SUCTION FROM ENGINE

Sketch of Improvised Reservoir

Putting Catch-All Together

First, take the twenty-foot extension ladder apart by disconnecting the ropes used for extending it.

Secondly, place the two sections of this ladder on the ground at the hydrant on one beam and lock the two ends together directly behind the hydrant by fastening the ends together with a leather spanner strap. This strap is wrapped around the end rungs of both ladders and leaves the other two ends of the ladders at right and left angles out in front of the hydrant, approximately ten feet apart.

Thirdly, take the roof ladder and place it flat on one beam across the two open ends of the other ladders and strap the roof ladder to the other two ladders by means of leather spanner straps. These straps are also wrapped around the end rungs of the roof ladder and the end rungs of the other two ladders.

When this has been completed, you will have a framework in the shape of a triangle, with the hydrant at one point and the wide part of other two points of the triangle out in front of the hydrant.

A salvage cover is then placed across the entire framework, allowing sufficient cover in the center of the framework to form a pocket and enough to overlap on sides of framework to allow tucking in under beams of ladders. When tucking the salvage cover around the hydrant, be sure to pull it tight around the hydrant and keep it tucked under the nozzles of the hydrant. When the above has been completed, it will resemble a three-cornered reservoir, about two feet deep.

Filling with Water and Drafting

First open up the valve on the hydrant and fill reservoir with water to approximately two inches from the top. Then connect hard suctions of engine together, placing suction basket on end of suction and setting it in center of catch-all or deepest part, leaving hydrant open enough to allow a sufficient supply of water for the suction.

Be sure to keep end of suction fully submerged in water and leave hydrant open enough to keep suction covered and the reservoir full. This will allow pumper to pump water efficiently for an indefinite period and will supply enough water to give two good streams on any fire.

Other Uses of Emergency Catch-All

The catch-all cistern can also be used to very good advantage inside of buildings to catch water and prevent it from damaging stock, furniture, etc., by seeping through to floors below. It is also used when holes are cut in floors to eliminate excessive water weight, by being placed underneath the holes that have been cut, catching water and draining off the water from the catch-all by a syphon.

This type of catch-all can be constructed with ladders, boxes, chairs, barrels, or any other means available. A circle is formed with the materials on hand and a salvage cover draped over the top and allowed to sag in the center to form a pocket. Enough of the salvage cover should be allowed to hang over the edge or side of the framework used to be well tucked under. It will be found that a considerable amount of water can be caught in an emergency catch-all of this type.

Draining of Catch-All

After the catch-all is filled with water, it can readily be emptied by the use of a syphoning system as follows:

At fires where a considerable amount of water has been used, there is usually one or more large lines of hose with shut-off nozzles available and also small chemical or "wash down" lines, which are part of the equipment of a pumper. With the large line and the small line, a syphoning system to drain the catch-all can be made in a very short time with little effort.

An adapter is placed on the end of the shut off nozzle (which is shut off) and the small line connected on to the shut-off nozzle. The balance of the small line is then placed out of a window into alley or court. Next submerge the large shut-off nozzle with small line attached into the deepest part of the water in the catch-all and then open large nozzle and allow water to run through small line for about ten or twenty seconds. The two lines are disconnected while still submerged in the water, the large line shut off and removed from the catch-all and the opening of the small line left on the bottom of the catch-all where it

has begun to suck up the water and discharge it through the line out of the window.

By running the water through the large line and into the smaller line, a suction is created and when the two lines are broken while still submerged, the small line forms a suction and will drain water from the catch-all as long as the end is kept submerged. In trials conducted at the Training School, it was found that the small line draining out the water could be elevated to a height of fifteen feet above the level of the catch-all and still work successfully. Of course, if hose lines are not available, the catch-all can be drained by the use of buckets, pails, etc.

THE TRAINING OF CIVILIANS FOR AUXILIARY FIRE SERVICE

Instructional Material Must Be Simple; Instructor Must Have Teaching Ability

By R. W. Alsip
Chief, Champaign, Ill., Fire Department

IN the training of civilians the first thing to consider is the purpose for which we wish to train them. In the field of civilian training which may devolve upon the fire service, that purpose will resolve itself into the prevention of fires, through the elimination or control of fire-propagating conditions or practices. The fire service and other organizations have been educating the public for years on the principles of fire prevention, basing those principles largely upon two arguments—the saving of life and the reduction of economic loss.

Now with this country at war and dependent upon every physical and human resource for the vigorous and victorious prosecution of its war effort, the prevention of unnecessary fires and the reduction of avoidable fire waste becomes not only a humanitarian and economic endeavor, but assumes moreover the obligation of a patriotic duty in the support and fulfillment of the nation's war-time responsibilities.

Surely the destruction by fire, from any cause, of military materials, munitions and supplies, commodities for civilian use, or the industries and factories employed in their production, is just as severe and crippling as though that destruction were caused by enemy action or procurement.

Instructional Material Necessary

In order to carry on civilian training it is necessary to have instructional material, which should be prepared and presented so as to be simple and yet cover the subject. This is important. A number of the subjects on which the citizens of our communities will receive training are already covered in printed material available from many sources, but these citizens are not going to the public libraries or elsewhere to search out and apply that material for themselves. It must be consolidated and presented to them in an interesting and instructive fashion, and that is our first consideration.

Our next consideration then is the instructor himself, and the selection of a person for that task who has the proper knowledge of his subjects, and the ability to instruct and train others. You will find it is going to be necessary to train civilians along a number of different lines during this time, and this may require that the instructors receive certain special instruction and training themselves in advance. That surely is the essence of the school for the training of air wardens.

Many methods of presenting the instructional material can be employed; by radio, press, class work, and by talks, demonstrations and discussions before public groups, including the use of motion pictures. It is necessary to conduct maneuvers and practices in putting these civilian training programs into effect.

Information Must Be Accurate

We must bear in mind that the information we may pass on to our citizens must be correct. Nothing will destroy their confidence in us quicker than to give out information that has to be withdrawn or corrected later. It is better to take your time and be sure of your material before you attempt to put it out. Further, the information must be coordinated. It is going to be necessary that someone pass on it, and that three or four different organizations do not attempt to instruct on the same subject. The local defense coordinator will have to see that the different organizations do not invade each other's field, and that the public is supplied with reliable information, properly coordinated, through OCD or the local defense set-up.

Fire prevention educational work is certainly necessary, and I believe the fire departments now have the greatest opportunity they have ever had in our history, to convince people that most of the fires we have experienced over the years were absolutely unnecessary, and with proper training of our people could have been prevented.

The term "auxiliary firemen" is just what the name implies. They are helpers, and are expected to help the regular firemen and do the job which will be left for them to handle. The responsibility of training and directing these men will evolve upon the local fire chief and, as he will have other responsibilities, we should consider what he is to do with the training program.

An instructor should be selected from the department, who can train the auxiliary firemen. Some of the things to consider in the selection of an instructor are—pick a man who has a favorable personality, who is tactful and patient, who knows the subject, understands the group before him and, by all means, one who knows how to teach. Some of our best men in the fire service are unsuccessful as teachers because, over the years spent in acquiring their present knowledge and skills, they have forgotten those early fundamental things they had to first learn. And so, when they attempt to teach others they overlook those small things—the a-b-c's of the firemen's job—which are so necessary to the beginner, particularly so to the men who will compose the auxiliary fire forces and who will have only infrequent and limited opportunities to supplement such teaching and acquire knowledge and skill through actual fire fighting experience.

That is one of the major points that should be made in the training program —the ability to teach, on the part of the instructor, and the proper selection of civilians to compose the auxiliary forces. With that combination, and reliable information to teach them, this training responsibility can be effectively discharged.

Fire Service Long Interested in Training of Industrial Brigades

The training of industrial brigades is something also that the fire service, for a long time, has been interested in bringing about and, in some localities, has been able to do so in varying degrees. It is not a new thing in the field of fire service training but to a large extent apparently has not yet advanced much beyond the initial stages. This may be due, in some measure perhaps, to an erroneous belief that plant brigades are only effective as first aid units.

Now that this country is engaged in war, the biggest war the world has ever known, the protection of American industries and industrial property of all types becomes a paramount necessity, and every means of providing that protection must be employed.

Our problem of protection of industrial plants and institutions requires an analysis of the requirements of each individual property in order to develop the proper emergency protection. It must be borne in mind that these brigades may be required to act as the sole fire defense of the property so they must be qualified to assume the responsibility of supervising major fire protection equipment as well as acting as firemen. This condition is of special importance when the property is equipped with automatic sprinklers to be certain that the protection is maintained in service and that the sprinkler valves are NOT CLOSED BEFORE THE FIRE IS EXTINGUISHED.

Provisions must also be developed so that qualified maintenance men as well as firemen are available for all shifts even though the full organization is near by and available on call.

Our industrial training program places special emphasis on the physical and mental qualifications of watchmen who may well be the weak link in our entire protective program.

The program of developing air raid wardens develops a responsibility of fire prevention as well as fire protection not usual under normal fire service.

You are recruiting and training air raid wardens on the basis that either the wardens or through their guidance, the property owners, may be called on to extinguish many insidious dwelling house fires.

When the emergency has passed, I am certain that the standards of both the regular as well as volunteer fire departments will be at a much higher level than they were before the war. It is essential to build well now and require high standards of membership and training as the future of the fire service will depend on how well we plan and develop during the present emergency.

In closing, let me add one further thought: The fire service has a job to do in the training of the auxiliary fire forces, wherever and whenever they may be established, and no standing by or waiting for some to take the initiative in this training responsibility will excuse any failure on the part of the fire service in getting that job done on time. It can happen here, and if something does happen it must not find the fire service unprepared.

ARMY AIR SCHOOL AT STOCKTON WELL PROTECTED AGAINST FIRE

Efficient Personnel and Equipment Insures Proper Handling of Fires.

By Bob Greenock*

WHEN the staccato blasts of the giant siren at the West Air Corps Advanced Flying School, Stockton, Calif., sound their ominous warning of "Air Raid," "Blackout," or " Fire," a co-ordinated organization of emergency squads and departments instantly springs into action, ready to protect life and property from a would-be attacker by land or air against guns, gas, or fire.

Defense from the latter menace is centered around a modernly equipped fire department, manned by civilians to release soldiers for other military duties. Captains R. S. Craig and J. R. Nichols are Fire Marshal and Assistant Fire Marshal, respectively. Chief of the fire department is M. H. Bouchard, formerly with the Stockton Fire Department, rated as one of the most efficient departments in the State of California.

Equipment of the fire department at the field includes a 750-gallon pumper, a 100-series crash truck maintained on the flying line, a hose wagon and an auxiliary hose truck.

Augmenting this equipment is a large number of auxiliary fire carts spotted throughout the post, specially constructed sand boxes and other apparatus.

The sand boxes are distributed one to a building. They are constructed with a chute bottom and a hinged door. When the door is released, the sand runs out of the box. Each box is equipped with a shovel. Every building on the post has one or more fire extinguishers, depending on the size of the structure.

The auxiliary fire carts are two-wheeled trailers containing sand, shovels, rakes, garden hose with nozzles that will play a fine spray on incendiary bombs.

Thus, the department is ready for any conflagration which might be started with incendiary bombs. The department works three shifts but all men are on call in case of an emergency.

Sand Boxes Are Stationed Throughout the Post

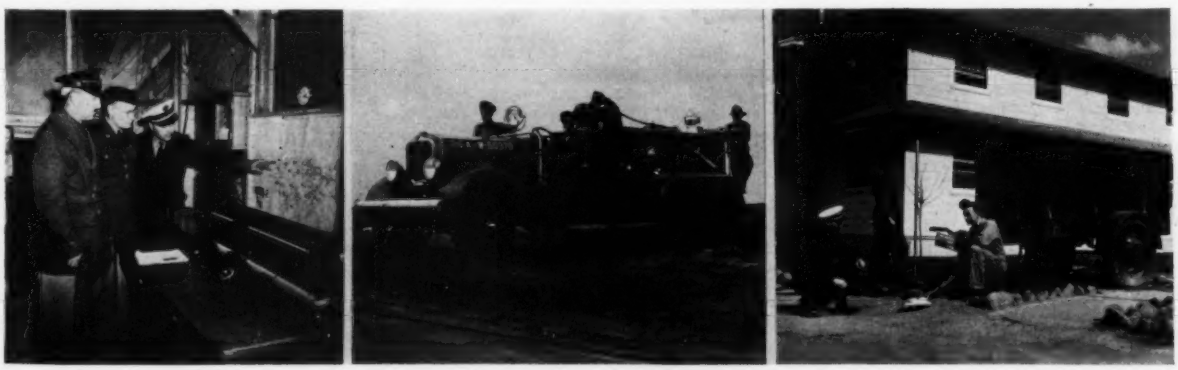
Chief Bouchard and Corporal C. E. Wright are inspecting the hinged door of one of the boxes. When the door catch is released, the sand runs out from the chute-bottomed box. Each box is also equipped with a shovel.

The department has been specially trained in the handling of incendiary bomb fires. All members of the department must pass a physical test and written examination before they are hired. All are trained in first aid work. During a blackout they stand by equipment ready to roll. During an air raid, they move the equipment to designated positions about the post.

A member of the department is assigned as post fire inspector. He checks all equipment and fire extinguishers, has fire hazards eliminated, watches electric line loads and assists the chief in teaching first aid, incendiary bomb fighting and other classes.

The alarm room is the nerve center of the master plan for meeting any emergency and three men are assigned to special duty as fire alarm operators.

*The above story was written from information compiled with the aid of the Office of the Public Relations at the Air Corps Advanced Flying School, Stockton, Calif. The accompanying photographs were taken for FIRE ENGINEERING by the U. S. Army Air Corps.



Fire Protection Equipment at Army Air School

Left: Nerve center of an alert fire department is the alarm room through which reports of fires, air raids, gas attacks or similar emergencies are relayed to personnel of the Air Corps Advanced Flying School by means of siren signals. Chief M. H. Bouchard checks the alarm system with Captain R. S. Craig, Post Fire Marshal (center) and Captain J. R. Nichols, Assistant Fire Marshal (left). Center: A crash truck, manned by four men, is maintained on the mat at all times during flights. The truck is equipped to handle any emergency and the men assigned to it are trained in emergency first aid. Right: Chief Bouchard is instructing Corporal Adell F. Odom (with hose) and Corporal Arthur J. McIlhone, members of their Squadron Fire Squad, in two methods of combatting incendiary bombs with fine spray of water or dry filtered sand containing no salt. The cart's equipment includes sand, hose, spray nozzle, shovels, rakes and other tools.

Air Field's 750-Gallon Pumper Rolling Out of the Fire House

It is supplemented with a hose truck and an auxiliary hose truck.

Peak efficiency is maintained by regular drills and class work so that any hour of the day or night will find Stockton Field prepared to protect precious training airplanes, equipment and buildings, all vital in the Victory program to blacken the skies with American fighting ships and fighting men.

Stirrup Pumps Go into Production

Contracts are being signed for 2,258,000 stirrup pumps for extinguishing fire bombs, the Office of Civilian Defense stated recently. The pumps, made to governmental specifications, will sell for $3 to $4 each. Manufacturers have already been instructed to proceed in their production.

Success in a search for plastics as rubber substitute which could be used for pump hose made it possible to proceed immediately with the manufacture. Allocation of the pumps to target areas will provide an average of four to a city block.

An equal number of pump tank extinguishers to remain the property of the OCD will be distributed as block fire fighting equipment in the same areas.

To make the stirrup pumps available to the public at the lowest possible price level, the contracts for them will be let by the Defense Supplies Corporation, with the unit price fixed by the Office of Price Administration.

Local defense councils will be permitted to buy pumps from the manufacturers at wholesale.

As the pumps can be manufactured quickly, now that materials are available, deliveries should begin soon.

Promotions in New York Fire Department

Deputy Chief Edward G. Conway of the 10th Division, New York City, has been designated as Deputy Chief in Charge, Boroughs of Brooklyn and Queens.

Battalion Chiefs Richard Burke of the Third Battalion and Antonio Z. Petronelli of the Forty-Ninth Battalion have been promoted to the rank of Deputy Chief.

COUNTY FIRE ORGANIZATION SERVES 1500 SQUARE MILES

Stanislaus County (Calif.) Fire Department a Well Equipped and Highly Trained Organization

By O. S. Ball
Fire Warden, Stanislaus County, California

STANISLAUS COUNTY, located in the central part of the State of California consists of 1,486 square miles or 951,000 acres of land, seventy-five per cent of which is arable. Sixty per cent of the total acreage is under irrigation.

There are 5734 farms in the county with a total valuation of $75,119,376. The county produced $35,000,000 worth of produce in 1941. The assessed valuation of the rural areas is $66,000,000, which does not include incorporated cities.

There are 105 manufacturing plants in the county, which in 1939 produced $25,859,109 worth of goods.

Mining in the county in 1941 produced $1,500,000 worth of gold, magnesite, manganese and quicksilver.

Retail trade in the City of Modesto, which is the county seat, is the largest amount per capita in the United States. The per capita rate is $1,209. The state average is only 461.

There are twelve rural fire districts in Stanislaus County, with five more in the process of organization at the present time. Three of the five have already presented their petitions to the Board of Supervisors. When these have been legally organized, the county will have seventeen fire districts, which will cover about ninety per cent of the rural area.

Forty-One Pieces of Equipment Available

There are forty-one pieces of first class fire equipment in the county, twenty-eight of which are rural trucks. These twenty-eight pieces have cost the taxpayers in the twelve different districts a total of $71,900. The county is attempting at the present time to secure an additional twenty-one pieces to be placed in the different sections in charge of the regular trained force. If this additional equipment can be secured, it will bring the county almost up to the standard required by the National Board of Fire Underwriters and would enable its fire service to take care of almost any emergency within its boundaries.

In the mountain or watershed area, 108 miles of fire roads or breaks have been built. A bulldozer and grader with a crew of two men work in this area throughout the dry season. Springs for water supply have been developed and roads built up to them. Until these roads were built, it was necessary to walk a crew of fire fighters as far as ten miles in order to get to a fire. At that time it took as long as six hours to get to a fire. Now fire equipment is stationed back in the mountains and can get to a fire in less than an hour with a crew of ten men. These roads cannot be used by regular equipment, and it was therefore necessary to build special equipment.

Three hundred forty-six regular firemen and 306 auxiliaries comprise the personnel of the fire service. All have been trained and can be depended upon in an emergency. Sixty-two more auxiliaries are under training.

Civilians Trained

Another program is under way which will be of great help to the fire service of Stanislaus County. The county has been divided into twenty-four sections, each section having one captain. These captains appoint at least five lieutenants and the lieutenants, ten or more men in their respective sections. The men will all be trained to take care of fires in their territories when they start, therefore relieving the regular firemen and equipment for answering calls for fires of greater proportions. This program is under the supervision of the Agricultural Extension Service, but it is up to the fire warden or ranger in each county to train, what is termed, these backyard fire departments.

The county has also put the mutual aid plan into effect, and found that it has worked out one hundred per cent.

Another phase of the program is the training of boys between the ages of sixteen and nineteen years of age in the schools in fire prevention and fire suppression. They are trained thoroughly in the use of all fire tools, fire extinguishers, back-pack pumps, etc. They are taken into the mountain areas and shown what they must contend with in fighting fires in that area. They are shown how to handle the rural fire equipment on imaginary grain and grass fires and also on structural fires. These young men will be of great assistance to the county during the dry season, and will be used in place of the C.C.C. boys.

For the past several years youngsters in the second, third and fourth grades have been brought to the fire house, or the fire equipment brought to the school. They are given a short lecture and allowed to ride on the equipment and to hold the hose while water is pumped through it. Each child is made the fire chief in his or her home. The different fire hazards to be found in the home and on the ranch are explained. Children are asked to go home and look for these hazards and to report them to their teachers when they return to school. As many as 126 hazards have been reported in one week and checked, and the youngsters thanked.

Mrs. Strathearn Dead

Mrs. Anna Brunner Strathearn, wife of Battalion Chief Hobart Strathearn of the Paterson, N. J., Fire Department, died suddenly on September 8. Mrs. Strathearn was known to many in the fire service.

REPUBLIC STEEL DEVELOPS PLANT PROTECTION PLAN

Plan Already in Use in Cleveland Being Expanded to Other Mills

WITH a number of its important operations located in what the Federal Government terms a critical area, Republic Steel Corporation has developed a plant protection plan designed to meet every emergency which might result from enemy bombings. Under this plan, the company will have approximately 7000 employees thoroughly trained in some phase of protective work throughout the Corporation.

Already set up in detail in its Cleveland, Ohio, mills, the protection plan is being rapidly expanded to other of Republic's producing units.

So that there may be absolute uniformity in both the organization and in the execution of the plant emergency protection plans, the company has prepared a series of four booklets, which not only describe the organization in detail but also outline, in ABC fashion, the functions of the organization and the course of instruction which should be followed.

The basis of the protection plan is the organization set up for emergency first-aid protection for employees. The Fire Prevention and Protection Organization follows the First Aid Organization in detail so that there will be no division of authority at any point and so that all of the protective services will function as one close-knit, co-ordinated unit.

Heading the emergency organization is the district manager, with the superintendent of industrial relations acting as his lieutenant. Under the superintendent of industrial relations is the emergency protection supervisor, who is in detailed charge of the organization and execution of the plan. Under the emergency protection supervisor, the plant organization is broken into two main sections.

The Safety Department supervises all instruction, provides necessary equipment for carrying out the first-aid, rescue and fire work, trains the men and organizes them into brigades, keeps an accurate record of their training, establishes an educational program for employees, and provides the means of communication between the operating departments and the head of the protection services.

The other branch provides for a detailed organization in each department. Wardens are appointed and men are assigned to the first-aid and fire brigades. A running check is kept on all equipment and daily inspections of the equipment are made. Lists of the trained personnel are posted in each department and exact instructions are given so that each man knows exactly where in the plant, and how, he is to function in case of emergency.

The plant emergency protection system is divided into eight main divisions. These include:

Electrical Maintenance and Communications, which has charge of all communicating systems, trains for emergency blackouts, directs blackout activities, sets up lighting facilities, develops air-raid signals, trains and provides a messenger service, and maintains a close connection, through the safety supervisor, with the local civilian defense authorities.

Police and Traffic are responsible for the training of an organization of auxiliary police, the regulation of plant traffic, for the organization of first-aid transportation facilities, and see that division heads and alternates report immediately to the company's control center in case of emergency.

Safety and Health has direction of the training of squads to handle all types of bombs, is responsible for the handling of bombs which fall within the plant area, for providing food in case of emergency, and co-operates in the general educational campaign.

Transportation has charge of all railroad equipment together with its disposal and operation.

Fire Brigades Trained

Fire—selects and trains fire brigades, is responsible for the removal of fire hazards, decides on the exact location of fire-fighting equipment, sets up and maintains a fire alarm system, develops regular fire inspections, keeps running check on water supply, selects and assigns fire watchers, and keeps in close contact with the local fire departments.

Mechanical Maintenance directs repairs, locates air-raid shelters, and has an available pool of trained men to handle emergency work.

First Aid trains and organizes first-aid squads, co-operates with the plant physician so that the dispensary can function as a base hospital, distributes and checks emergency first-aid equipment, locates first-aid stations, and keeps all records of men who are trained or are being trained.

Engineering supplies construction details of plants, buildings and equipment together with necessary diagrams, charts and boards for the operation of the plant control center.

Detailed instructions are given on the sequence in which plant executives are to be notified in case of an emergency, together with the activity which follows the receipt of the yellow, blue and red signals from the local Civilian Defense control center.

By thoroughly and completely training thousands of men in various phases of emergency protection, the company is at the same time performing a valuable service to the local Civilian Defense organizations, in that these men are available for service in their home sectors when they are not in the plants.

The protection plan is designed to keep the large majority of the men at work during any emergency so that there will be no halt in the production of iron and steel essential to the prosecution of the war.

Coast Guard Fire Fighters Operate New Boat

Elimination of propellers and rudder which might be damaged by debris, and an engine with the dual role of pushing the boat forward by reaction from stream and supplying water to the nozzles, are the two advantages of this new type Coast Guard fire boat. The Coast Guard has bought about 100 of these boats, which were designed by the Hanley Engineering Company of Prospect, Ohio.

Chief Schwenk Resigns

Chief William F. Schwenk has resigned as Chief of the Yankton, S. D., Fire Department, to enter defense work. His resignation was effective as of October 1.

Chief Evans Celebrates Fiftieth Anniversary

Chief John M. Evans of the New Orleans, La., Fire Department, has rounded out fifty years of service with the Department.

He joined the Department as a ladderman on October 10, 1892, ten months after it became a pay organization.

Chief John M. Evans

His rise in the department was comparatively swift. He was appointed as a driver on December 23, 1896, promoted to the rank of lieutenant on June 13, 1902, and on November 14, 1902, he was promoted to the rank of captain.

On June 21, 1911, he became assistant chief engineer and on December 18, 1920, chief engineer.

Chief Evans served as President of the International Association of Fire Chiefs during 1928 and 1929. He is an honorary member of a number of fire chiefs associations. He is also an active member of the Louisiana State Firemen's Association, the Southwestern Fire Chiefs Association, and a member of the Board of Supervisors for the Louisiana State Fire School.

The New Orleans Fire Department had about 300 officers and men when the Chief first joined the organization. Today the department has 690 officers and men and fifty-eight pieces of equipment in service. The efficiency of the department is very high, and the fire losses are comparatively small for a city of its size, and the number of fire hazards is always present in a port city.

Chief Evans was one of the leading advocates of the two platoon system and his efforts were largely responsible for its adoption. He was also responsible for securing a salary increase for each member of the department in 1929.

In honor of Chief Evans a three day celebration sponsored by the City of New Orleans, the Louisiana State Firemen's Association, and by members of the department themselves was held.

Ex-Chief Kilham Dead

Ex-Chief Horace A. Kilham of the Wenham, Mass., Fire Department, died early last month after a brief illness.

He was a member of the fire department for fifty years, serving as Chief for twenty years until his recent retirement.

Five Alarm Fire Sweeps Through Large Factory Building

A spectacular five-alarm fire raged through the three-story brick factory of the Kleber Trunk and Bag Company in Pittsburgh, Pa., which was working day and night on Government orders, causing a loss of over $190,000 before it was brought under control and extinguished by the fifteen fire companies called on the five alarms and a special call.

One hundred men and women employes of the company working in the large varnish and spraying room on the second floor of the building, escaped to the street in safety after the fire broke out among highly volatile materials, which were ignited by a spark from an electric drying fan.

When Engine Companies Nos. 12, 11 and Truck 12, in command of Battalion Chief John I. Zollinger of the Fourth Battalion arrived on the scene in response to the first alarm from the street box, Station 399, at 6:40 P. M., on July 23, the flames had already made great headway and were rapidly spreading to other parts of the building.

Battalion Chief Zollinger, as soon as he arrived on the scene, sent in the second alarm, which was immediately followed by a special telephone call for extra equipment. The third alarm followed at 7:05 P. M., the fourth at 7:07 P. M., and the fifth alarm at 7:25 P. M.

The second alarm was responded to by Engine Companies No. 4, 22 and 24 and Chief of Department, Edward J. Kerr, who upon his arrival took command of the fire fighting. The third alarm was answered by Engine Companies Nos. 5, 30, 3 and Truck 5, the fourth by Engine Companies Nos. 31 and 19 and the fifth alarm by Engine Companies Nos. 58 and 10, while the special telephone call was answered by Squad Company No. 1.

Sixty-eight Firemen Fight Fire

A manual fire fighting force of sixty-eight firemen, including the chief officers, answered the five alarms and the special call with sixteen pieces of apparatus, three 1250-gallon pumpers, two 1000-gallon pumpers, seven 750-gallon pumpers, one squad wagon, one combination hose and turret wagon and two 75-foot four-wheel tractor drawn aerial trucks.

In extinguishing the fire, eleven powerful pumper streams and one hydrant stream were used by the firemen, with 10,850 feet of 2½-inch hose in service and 550 feet of one-inch lead line hose used in wetting down the smouldering ruins. Other equipment used were 338 feet of ladders and 19 salvage covers. Automatic sprinklers in the building helped to hold the fire in check and from spreading throughout the block long building.

Employees Fight Fire

When the fire broke out in the varnish and spraying room, according to the Secretary-Treasurer of the Company, some of the workmen attempted to extinguish the blaze and thought they had about succeeded, when suddenly, the flames burst out anew, this time completely out of control and spread rapidly, eating through the oil cloths, plywoods, paints and varnishes and other materials used in the manufacture of all kinds of luggage.

At first, there was little flame visible from the exterior of the building and firemen had a hard battle fighting their way into the building to reach the seat of the fire through the heavy clouds of acrid smoke which rolled from every window, door and opening in the building. It was not until the flat roof burned through by the flames that the firemen had a good working advantage. After hard and efficient work under the direction of Chief of Department, Edward J. Kerr, they soon brought the fire under control and kept the flames entirely confined within the building.

Located within the building, at the 31st Street end, and separated from the luggage factory by a partition wall, is the large warehouse of the Pennsylvania Department of Public Assistance, where was stored its supplies and some of its records. Much of this material was soaked with water.

WILLIAM E. PATTERSON

View of Fire After it Had Been Controlled

Pennsylvania's Fourth Annual Firemen's Training Conference Proves Biggest and Best Yet

The Fourth Annual Pennsylvania Firemen's Training Conference attracted a total registration this year of 369. Of this number, 27 were from other States, namely: California, 1; District of Columbia, 2; Illinois, 1; Indiana, 1; Maryland, 7; New Jersey, 3; New York, 6; and Ohio, 6.

The Conference is an annual feature of the Fire School, Public Service Institute, Department of Public Instruction, Harrisburg, and this year's affair was again directed by "Art" Espey, head of the Fire School. Assisting Mr. Espey were Mr. Charles E. Clark, Secretary of the Pennsylvania State Firemen's Association, which, with the Pennsylvania State College, co-operates in offering the training program. Mr. Clark served as the Conference Secretary with Mr. Hugh Pyle and Charles M. Graff as assistants. Immediate aides to Mr. Espey were Chief A. Nelson Yearick of the Lewistown Fire Department; Harry A. Zeller of Sayre, and Bob Jones of Cresson. Mr. R. C. Heagy of Lancaster handled the motion picture showings.

New Section Added to Curriculum

In addition to the sections for Chiefs, Engineers, Firemen, Instructors, Fire Prevention Inspectors, and Fire Police, a new one for Fire Department Rescue Squads was established. This latest phase was enthusiastically received. The daily activities included both classroom and practical instruction related to the sections. Gas mask instruction was provided with smoke room facilities. The apparatus used in the various activities was loaned by the Fire Departments of Bellefonte, Lewistown, and State College. The evening sessions were general assemblies with featured speakers and suitable motion pictures.

Those who served as faculty members and advisors were: Chiefs Lawrence P. Scully, Erie; Otto W. Johnson, Easton; James J. Donnon, Yeadon; Herbert J. Blackenmyer, Indiantown Gap Military Fire Department; Douglas G. Kropf, Warren; Captains Frank A. Rowe and James Farley, Philadelphia; Edward H. Koerkle, Lancaster; Harry Sheafer, Lewistown; Lawrence E. Reilly, Rochester, N. Y.; George Cartwright, Johnstown; and Instructors George Nenstiel, Johnstown; Robert Eyer and William Marsh, Lewisburg; Robert McCleaster, Paxtang; James A. Corfield, Millvale; Hugh R. Clinton and Paul Goss, Pittsburgh; John Kysel, Johnstown; Bruce Mellinger and Harold Pierce, Harrisburg; Edgar Spotz, Hummelstown; Harold D. Cowher, Bellefonte; and Howard M. Travis, N. B. F. U., Rochester, N. Y.; Lorin J. Elder, Professors Fred Stewart and Amos Neyhart of the Pennsylvania State College.

Speakers at the General Sessions were: Dr. Hubert C. Eicher, Harrisburg; Dr. Hubley R. Owen, Philadelphia; Robert F. Hamm, State Fire Marshal's Office, Indianapolis, Indiana; Dwight K. Taylor of Sayre; A. Bruce Bielaski and A. C. Hutson, N. B. F. U., New York City; Chief George Wirt, Pennsylvania Department Forests and Waters; Lieutenant Ralph Gardner, Pennsylvania Motor Police.

Dr. David J. Price, President N. F. P. A., gave the opening address, while George J. Richardson, Secretary-Treasurer, I. A. F. F., offered the concluding speech.

Among the outstanding events of the Conference were exhibitions given by the Hummelstown Auxiliary Fire Department, made up of boys between the ages of 16 and 19; a splendid demonstration by the Chemical Warfare Service, U. S. A., under the command of Captain George W. Wilson, and "A Fire Show" put on by picked crews of Conference enrollees under the direction of George Cartwright of Johnstown. Smoke effects were employed to give the scene realism and as the several fire fighting units "rolled in" at a given signal, the huge recreation hall gave every evidence of "a worker." Engine, ladder, squad and ambulance companies responded promptly; lines were laid, ladders raised, and none of the tasks incident to effective fire-fighting appeared to have been overlooked. Masked firemen entered the smoke-filled structure to ventilate—some bore salvage covers—while the squad's express duty was to "rescue a victim," which they did to the plaudits of the onlookers.

The 1942 Conference attendance exceeded the preceding year by 19 enrollments, although delegations which arrived on Thursday and Friday failed to register. The estimated total therefore is believed to have reached the figure of approximately 387—the largest attendance since the adoption of the conference idea.

Auxiliaries Gum Up the Works

At a large lumber yard fire in the upper part of New York City recently, auxiliary firemen and air raid wardens, who responded in numbers, caused considerable confusion when they took a hand in stretching lines, and otherwise "aiding" the Fire Department. It was ultimately necessary for the Police Department to remove the auxiliaries and the wardens beyond the zone of fire fighting operations.

In an address over the radio subsequently, Mayor LaGuardia of New York gave the following orders:

"Air raid wardens are NOT to go to fires.

"Auxiliary firemen are NOT to go to fires, if we are not under attack. Go to your firehouse. Auxiliary firemen constitute a great reserve force!"

Balloon Bursts Into Flame at Demonstration
Spectators fled from the scene, as a balloon, intended for an exhibition ascension at Bedford, Ind., suddenly burst into flames while being inflated. Several thousand persons were nearby at the time to see a scheduled parachute jump from a balloon.

August Fire Loss

Fire losses in the United States during August were $19,680,000, according to the estimate given out by the National Board of Fire Underwriters. These estimated losses, under fire insurance policies, are on an incurred basis, including an allowance for unreported and uninsured losses.

Losses from fire continue to show a sharp decline from those reported a year ago, the August total of $19,680,000 showing a drop of eighteen per cent from the total in the same month last year, while it is six per cent less than the $21,000,000 total for July of this year.

Delegates to the Pennsylvania Conference

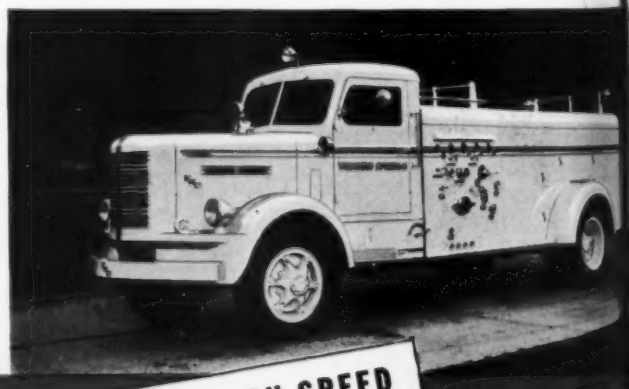
Fire-Fighters—

Like MILITARY FORCES . . . Need Four-Wheel-Drive POWER and PERFORMANCE

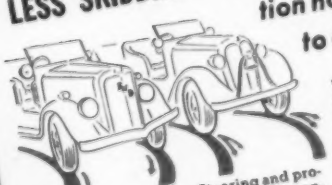
MILITARY needs demand unusual qualifications in a motor truck—the capacity to get through over the roughest terrain — stamina to survive the "forced marches" of prolonged hauling under the severest conditions. Here is where the reserve power, rugged construction, and true application of the four-wheel-drive principle of an FWD make it stand out in sharp contrast to ordinary types of motor trucks — and thousands of FWD's are in service as vital equipment with armed forces.

It is significant, too, that the four-wheel-drive principle is used in practically every wheeled motor vehicle in the military services today. Just as the full-powered traction and superior "going" power of four driving wheels have been recognized by military men, FWD fire apparatus is increasingly preferred by fire-fighting authorities in leading municipalities.

Today more than ever before a heavy responsibility rests upon the fire prevention and fire-fighting forces of this country — the menace of fire and its destruction of home and vital defense plants must be effectively combated so that there may be no crippling of our all-out victory effort. Cities from coast to coast look to FWD apparatus for the unfailing dependability — the extra safety — the ability to get to the fire with least hazard — so important in wartime fire-fighting.



LESS SKIDDING — powered steering traction holds front wheels to direction of turns.

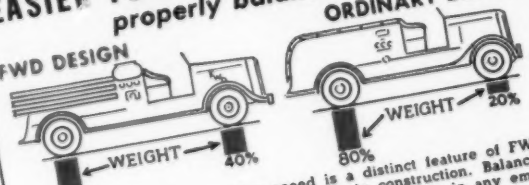


FWD powered front wheel traction always in direction steered — minimizes skidding.

Steering and propelling force opposed with rear drive — encourages skids.

The propelling force to the front axle of the FWD is always in the same direction in which the truck is steered minimizing skidding and giving more positive steering control. Skidding tests conducted on ice show 50% less skidding due to powered front axle alone

EASIER TO HANDLE AT HIGH SPEED properly balanced



Positive driver control at high speed is a distinct feature of FWD design due to its properly balanced basic construction. Balanced weight distribution makes the truck handle perfectly in any emergency. The added weight on the front axle is used in powered traction for greater safety and increased performance.

FASTER GET-A-

ONLY THE FWD FOUR-WHEEL-DRIVE PRINCIPLE PROVID

ANSWERS EVERY DEMAND FOR SPEED . . . POWER . . . TRACTION . . . SAFETY . . . DEPENDABILITY

FWD fire apparatus offers . . . power on all four wheels which makes full use of all the engine power for acceleration — slippery streets that ordinarily would cause wheel spin and delay do not present hazards. Positive driver control at high speed is a distinct feature of FWD design due to its properly balanced basic construction. All the weight of the truck and its load are converted into powered traction for superior performance and added safety.

FWD builds a complete line of fire trucks — all types, all sizes — with rotary or centrifugal pumpers in triple or quadruple combinations, aerials, etc. — backed by nation-wide service.

Write today for descriptive literature.

THE FOUR WHEEL DRIVE AUTO CO., Clintonville, Wis.
Canadian Factory: KITCHENER, ONT.

THESE FWD MEN SPECIALIZE IN FIRE APPARATUS:

MERTON H. ANUNSON — Manager of FWD's fire truck sales division. Knows fire-fighting equipment from first hand experience in the field. With the FWD organization since 1935 — specializing in the proper application of FWD's complete line of fire apparatus for every need.

★

G. D. SIMONDS — Assistant Chief Engineer at FWD. During the past 13 years with the FWD organization he has made many notable contributions — he is the designer of the new "H" series FWD trucks and was the first to design special aerial ladder fire trucks to meet New York City specifications. Simonds is a veteran automotive engineer with more than 22 years of experience.

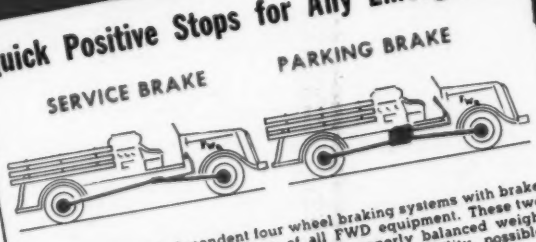
★

CLARENCE ROHRER has been with The Four Wheel Drive Auto Company for 18 years. He started in the machine shop and then was transferred to the inspection department. He worked at parts inspection and floor inspection and for the last 3 years has been in the charge of final parts inspection, rough stock inspection, floor inspection and the salvage department. His title is foreman of the Inspection Department.

ur wheels grip ad for the run.

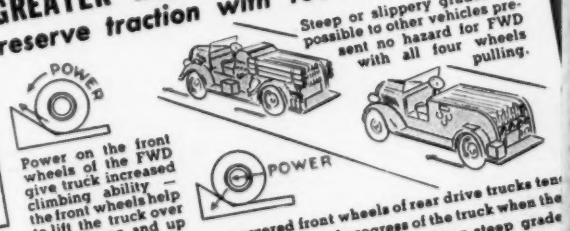
on all four wheels makes e of all the engine power eleration—Slippery streets dinarily would cause wheel and delay do not present rds. All the weight of the and its load are converted powered traction for maxi- performance. Often only a tion of the engine's full per- mance is utilized when trac- is dependent on only one le of a truck.

Quick Positive Stops for Any Emergency



Two separate and independent four wheel braking systems with brake drums on each wheel are a feature of all FWD equipment. These two super braking systems, combined with a properly balanced weight distribution, provide the most effective braking ability possible.

GREATER HILL-CLIMBING ABILITY — reserve traction with four-wheel-drive



Steep or slippery grades impossible to other vehicles present no hazard for FWD with all four wheels pulling.

Power on the front wheels of the FWD give truck increased climbing ability — the front wheels help to lift the truck over obstructions and up steep grades.

Non-powered front wheels of rear drive trucks tend to block the forward progress of the truck when the meet an obstruction or in climbing steep grade

SE OUTSTANDING SAFETY AND PERFORMANCE FEATURES

For Practical Discussion of Current Fire Department and Fire Management Problems

SIRENS ON FIRE APPARATUS DURING WARTIME

THE discussion in this round table is a continuation of that which appeared in the September issue of FIRE ENGINEERING.

The generous response from our readers made it necessary to carry the discussion over into this month's issue.

Readers are invited to send in their comments on this subject or on next month's topic, which appears in the box on the following page. Address communications to Round Table Editor, FIRE ENGINEERING, 24 West 40th Street, New York, N. Y.

HERE IS THE PROBLEM

Now that sirens are being used for air raid alarms, do you permit the use of fire apparatus sirens in answering fire alarms?

If not, what warning signals (bells, whistles, etc.) are used?

Do you feel the alternate signals are satisfactory?

If not, how, in your opinion, could the problem be best solved?

Discussion of the Topic

J. A. Fisher, Chief, Annapolis, Md.: I am positively opposed to using any regular fire department alarm for air raid alarms.

We tried this out in Annapolis and it was very unsatisfactory. We now have a radio recording set with a record, duplicating the sound of the air raid alarm at the U. S. Naval Academy. There are three of these sets, each installed at a fire station. Each set has a three-horn attachment. These sets are used only for air raid alarms.

We use electric sirens for all fire alarms and also our sirens on fire apparatus when responding to alarms of fire. We find that this method works very satisfactorily, both in the city and at the U. S. Naval Academy.

We have in our city three volunteer fire companies with nine paid drivers. On the blue signal we use our sirens. This is done so that we can call our men to quarters and move our apparatus to different stations, so that no station has more than one piece of apparatus in it. We treat this call in the same manner as a fire call. We always have a full crew to man the apparatus when the red signal is received.

Frank T. Miller, Chief, Linden, N. J.: This department is still using the fire apparatus sirens in answering fires during air raid tests and blackout alarms. In an actual air raid or test, persons are required to stay indoors and vehicles to pull to the side of the road and stop. Certain required autos are allowed to move, and these must be given warning on approach of fire apparatus. This does not cause any unusual disorder, and unless advised by military authorities to the contrary, we will continue to use the sirens on the apparatus.

Alternate signals, to me, are satisfactory. They are unusual warnings and are picked up quickly by the public.

T. H. Shipman, Chief New London, Conn.: New London is still using sirens on apparatus responding to alarms, as well as for summoning off-shift paid men, volunteers and auxiliary firemen in case of a large fire.

I have had no experience with alternate signals other than apparatus bells, which, in my opinion, are not at all satisfactory.

While I believe a change over from sirens to whistles or other devices could be made on apparatus in large cities where no outside alarms are necessary to call in the firemen, it must be remembered that ninety per cent of the cities and towns of this country are also using sirens for their alarm system. If sirens were to be used for air raid alarms only, then some other device would be necessary for the fire alarm system also. To replace all sirens in this necessary would be next to impossible with our present shortage of strategic materials.

The problem is one that must have serious thought from all angles. I don't believe that to discontinue sirens on apparatus but still continue to use them for the alarm system, will accomplish the purpose intended.

Ralph B. Harnden, Chief, Auburn, Me.: We do not use sirens for air raid signals. We have electric horns outside the center of the city, pointing in towards the center. We hope they will be satisfactory.

Thomas J. Finley, Chief, East Chicago, Ind.: We do not permit the use of fire apparatus sirens in answering fire alarms. Bells are used in place of the sirens.

However, we intend to use the sirens again. The plants in our city will use their whistles as air raid warnings. There are fifty-eight plants in East Chicago which can be used for the purpose of air raid warnings.

John C. Lee, Department Clerk, Elmira, N. Y.: Fire apparatus sirens are used with the exception of periods during blackouts or air raid alarms. During these periods the bells are used.

Paul P. Heinz, Chief, New Haven, Conn.: We have discontinued the use of sirens on all fire apparatus and have requested ambulances and other emergency vehicles to discontinue their use also. Exhaust whistles have replaced the sirens.

These whistles are satisfactory, but have their disadvantages. The high frequency pitch of the whistle appears to be more effective than the siren. Automobile operators recognize this signal, but the whistles when in operation tend to back up the exhaust gases to the motor and slow up the engine. I believe that when the public becomes better acquainted with this type of fire signal, the problem will be satisfactorily solved by exhaust whistles.

L. P. Seiler, Chief, Cuyahoga Falls, Ohio: I still permit the use of sirens in answering fire alarms. I do not think that sirens alone are satisfactory for air raid alarms.

Our air raid alarms are started with an aerial bomb which explodes three times in the air, followed by four minutes of the siren blowing the scale.

Our all clear is sounded by an air raid bomb which explodes just once in the air, followed by the blowing of the siren in one continuous blast for two minutes.

George Van Zant, Chief, New Castle, Ind.: The City of New Castle is still in possession of an old steam siren whistle. This whistle has been cleaned up and installed on a high pressure air system to be used as an air raid signal. We are therefore using the electric sirens on our fire apparatus.

I do not think the fire departments should attempt to dispense with the use of sirens on apparatus under any circumstances. Electric sirens suitable

for air raid signals will not be confused with fire department sirens, due to the great difference in tone.

George C. Graham, Chief, Bristol, Conn.: I believe sirens should be used on fire apparatus at all times regardless of air raid warnings. Air raid sirens have a distinct intermittent timing when used for air raid warnings and if the people are properly instructed, there should be little or no confusion in distinguishing them from fire sirens. We still use our sirens on fire apparatus at bad street intersections.

Factory whistles are used here and, although they not perfect, they have done a pretty good job during tests. I believe church bells could be used, together with the whistles and do a still better job. This hasn't been tried yet, although I have advocated the use of bells in conjunction with whistles.

In any tests of sirens that I have heard, it has seemed difficult to get a good line of demarcation between blasts. If there are enough sirens available to properly cover the needs of an entire city or town, they are all right. Each community seems to have its own special problems of sound coverage. Personally, I like an oscillating horn which throws the sound on a directional beam. Until such time as the U. S. Government and our sound engineers can give us some definite workable sound projector, I would say, make the best of facilities at hand.

E. J. Barksdale, Chief, Hattiesport, Miss.: I think one big whistle should be used for air raid alarms and leave the sirens for answering fire alarms alone.

M. C. McCaleb, Chief, Columbus, Miss.: We are still using sirens in answering fire alarms. At the present time the city is using whistles and bells as air raid warnings. These have been satisfactory in tests.

William Meinheit, Chief, Berkeley, Calif.: The use of sirens on apparatus is restricted. They are only to be used as driving horns. Sirens are not allowed during actual blackout periods. We use bells as a satisfactory alternate.

S. D. O'Conor, Chief, Beaumont, Tex.: We have not adopted any signal as yet for air raid alarms. We have tried several, but none has proven satistory as yet. The manufacturers tell us that bells are out of the picture as are other products using brass or aluminum. Whistles would probably be out of the picture. It may be that we have to send a flagman out ahead of the apparatus. We are, however, still using sirens on our apparatus.

W. P. Payne, Chief, Spokane, Wash.: We use sirens on our apparatus the same as ever.

We have twenty sirens and eight compressed air whistles distributed over the city and they have a different pitch from those on the apparatus. The timing of these whistles and sirens is, blasts of ten seconds each for a period of two minutes and the all clear is one long blast of two minutes straight. That in itself differs from the timing of apparatus sirens. We also have bells on the apparatus sirens. We also have bells on the apparatus, but we only use them when returning from a fire.

I believe the alternate signals are satisfactory as we use them here. I feel we have complete set-up.

Our system is on automatic control.

J. E. Held, Chief, Alliance, Ohio: As the City of Alliance is experimenting with whistles and steam sirens and in all probability will install these as air raid warning signals, we will continue the use of sirens as a warning signal on our fire apparatus.

R. Nyboe, Chief, Anaheim, Cal.: We do not use fire sirens for air raid alarms and therefore continue to use them on fire apparatus. For an air raid alarm, we use a whistle similar to a fog horn.

J. F. Hosemann, Chief, Vicksburg, Miss.: We have not discontinued the use of fire apparatus sirens in answering fire alarms. As soon as our city administration completes arrangements for the purchase and installation of adequately powered sirens we will have to discontinue the use of fire sirens and rely on bells for apparatus.

In a recent trial blackout we gave the alarm with whistles through a pre-arranged plan with two of our largest industrial concerns. We have them alternate in giving signals which work very satisfactorily. However, in a city larger than ours it probably would not work so well. Industrial concerns as a rule are confined to one particular district and are not scattered. Sirens are probably the best method. It is a sound recognized by everyone, and, in my opinion, would give the best results.

Charles E. Foster, Chief, Astoria, Ore.: We use steam whistles for air raid alarms. Therefore we still use sirens on our fire apparatus.

August Thomas, Chief, Aliquippa, Pa.: We do not use sirens on fire apparatus, because in an air raid the public might confuse it with the all-clear signal. Bells are being used very satisfactorily.

In a nearby town the chief put his siren on yellow to notify his volunteers. When he got his red he put the siren on again and the public thought it was an all-clear signal. That is why I believe an air raid alarm and a fire alarm should be altogether different.

E. L. Rector, Chief, Grosse Pointe Park, Mich.: Grosse Pointe Park, which borders the City of Detroit on the east, is planning to use the same type of air raid signals now being installed in that city. They are installing sirens. We feel that by using the same type of signal, there will be less confusion among the people.

HERE IS THE PROBLEM FOR THE NEXT ISSUE

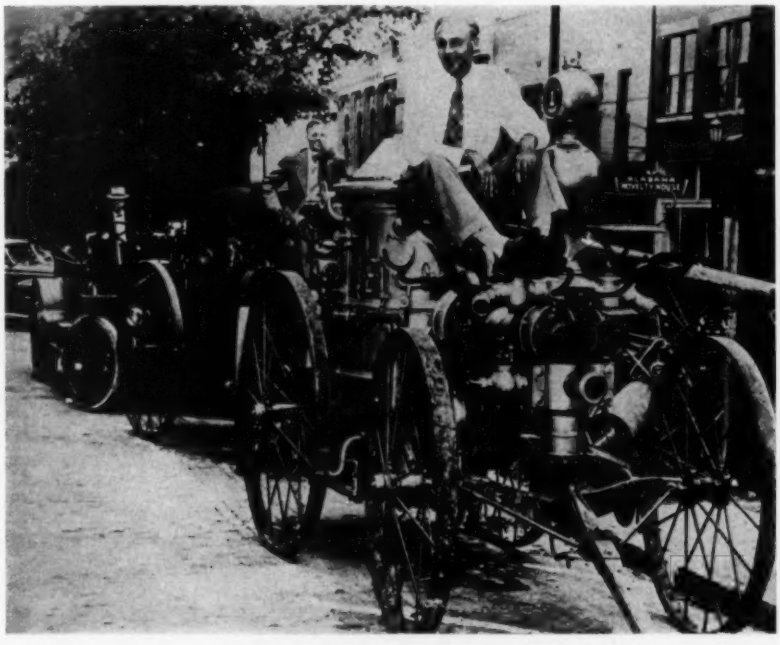
Are industrial plant watchmen in your city given a course of training in fire protection and related subjects?

If so, under whose auspices is the course conducted?

What does the course include?

Do the industries cooperate willingly in having their watchmen attend?

What, in your opinion, are the benefits of such a course?



Old Fire Engines to Help Scrap Drive

It has been many years since these old fire engines have clanged down the streets of Griffin, Ga., but now they're getting into a far more important fight. They have been contributed to the scrap drive by the City Commission. One of these engines was originally obtained in 1867, the second in 1880 and the third in 1913.

We use sirens, exhaust whistles and bells as warning signals on our trucks when responding to a fire.

If sirens should be eliminated for this purpose by ordinance, we intend to continue the whistles and bells.

Frank J. Callahan, Chief, Central Falls, R. I.: We use air whistles for air raid alarms, and therefore continue to use sirens on our apparatus.

Buford D. Pinkerton, Chief, Bellingham, Wash.: Locally whistles which have been pitched to the highest degree of efficiency are being used to announce an air raid alarm. We use bells in conjunction with the sirens to notify the public of the oncoming fire apparatus. This definitely sets fire apparatus apart from police cars and ambulances. We feel this works very satisfactory.

Frank V. Best, Chief, Galveston, Tex.: We are not permitted to use fire apparatus sirens in answering fire alarms. Bells are used instead. We would prefer the old way, yet we are glad to comply with the U. S. Army regulations.

Andrew T. Callahan, Chief, Harrison, N. J.: Harrison does not use sirens for air raid warning signals. We use the air raid system that is used at the R. C. A. building located within the city. The sound of this alarm is reproduced and broadcast throughout the city.

We therefore permit the use of sirens on our apparatus when it is responding to an alarm, but not on return. Bells are used for this.

E. N. Whitaker, Chief, Tacoma, Wash.: Tacoma uses large steam whistles for air raid warning signals. Six of these are installed in various parts of the city. Sirens are used on all fire and police equipment.

G. R. McCurdy, Augusta, Me.; We still permit the use of sirens on fire apparatus, even though we use sirens for announcing an air raid. We use 110 volt street sirens in all outlying districts.

John J. Tubridy, Commissioner of Fire, Buffalo, N. Y.; Bells are used as warning signals on fire apparatus, but with not too satisfactory results.

I believe oscillating red lights and bells should be use as warning signals. The drivers should also be warned to drive more slowly.

James Hrach, Chief, Berwyn, Ill.: We do not permit the use of fire apparatus sirens in answering fire alarms. Bells are used instead, but I do not feel they are satisfactory alternates. I believe that a different alarm should be used as an air raid alarm.

John J. McCarthy, Assistant Chief in Command, New York, N. Y.: We are not using sirens on fire apparatus in answering fire alarms. Bells are used, but are only satisfactory to a limited extent.

E. K. Ingram, Chief, High Point, N. C.: We use whistles as warning signals on fire apparatus in view of the fact that we use sirens as air raid signals. The results have been fair.

H. M. Knowles, Chief, Sarasota, Fla.: We do not permit the use of sirens on fire apparatus, but use bells instead. I do not feel that these are satisfactory and would prefer loud exhaust whistles instead.

Chiefs L. A. Moore, Fresno. Cal.; A. J. Cote, Woonsocket, R. I.; John Stocks, Dalton, Ga.; R. H. Grant, Fort Dodge, Ia., J. J. Martin, Clarksburg, W. Va.: and Edmund B. Lewis, Scranton, Pa., report that sirens are still being used on fire apparatus in their cities when responding to an alarm.

* * *

The following replies are in answer to a previous question on regulating the storage and handling of gasoline.

C. A. Delaney, Chief, Lakewood, Ohio: I would suggest enactment of legislation which would provide that all persons, firms and corporations dealing in, or dispensing, gasoline be prohibited from serving gasoline to any person except when pumped directly into the reservoirs of automobiles or placed in self-closing safety tanks of approved design of a capacity not to exceed five gallons.

In our opinion, control at the point of supply with provisions for penalties for violation should simplify enforcement.

In Lakewood we have legislation which provides that no gasoline or other inflammable liquids shall be kept in any garage or building except in the reservoirs of automobiles or in self-closing safety cans, and it is unlawful for anyone to keep or store gasoline in excess of five gallons without having obtained a permit. The granting of such permit is subject to the approval of the Chief of the Fire Department. This is in addition to regulations governing storage of gasoline in underground tanks.

Leo J. Urbanski, Chief, Saint Joseph, Mo.: Our ordinance permits one gallon of gasoline to be stored or kept in residence or garage at residence. It must be kept in a safety can. Five gallons may be kept in a garage in a safety can.

Ray H. Hare, Chief, Yakima, Wash.: The City of Yakima regulates the storage of gasoline in accordance with the current regulations of the National Fire Protection Association for the use, handling and storage of flammable liquids, which limits such storage to underground tanks, approved gasoline buggies or approved safety cans not exceeding five gallons capacity.

In the event that gasoline rationing should result in the wide spread storage of gasoline in unapproved containers, legislation prohibiting gasoline distributors from placing gasoline in any other than a legal container should give effective control of this problem.

Frank W. Bennett, Chief, Durham, N. C.: Our inflammable liquids ordinance provides that "Except as hereinafter provided a permit must first be obtained for the storage or handling of a total quantity of Class 1 liquids in excess of one gallon in any dwelling, apartment house or tenement; in excess of five gallons in any other building; and in excess of ten gallons outside of any building, and then only if kept in self-closing metal cans or tanks made for the purpose, and free from leaks; and provided, further, no cans shall be filled inside the building.

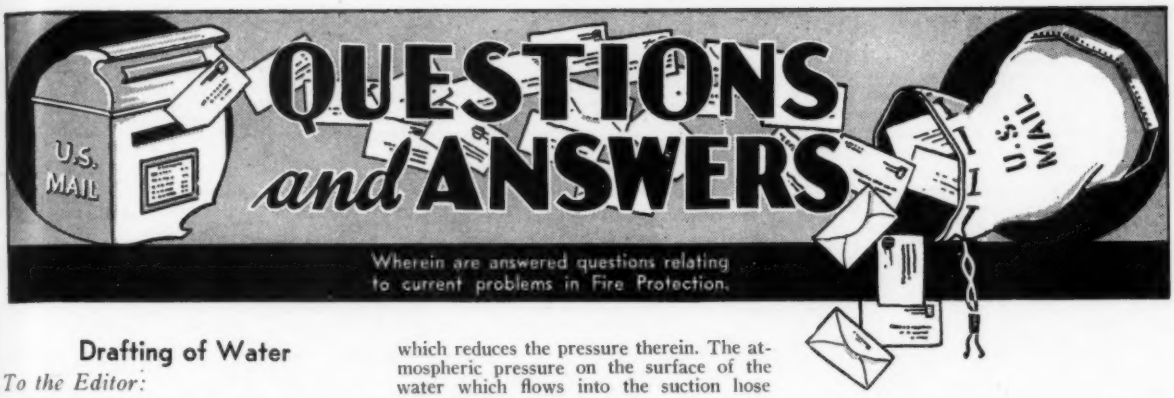
Joseph Morgan, Chief, St. Louis, Mo.: Legislation is being enacted to cover the hazards of unsafe storage of gasoline around homes or places of business. This provides for the organization of a Bureau of Fire Prevention, consisting of a Fire Marshal and sufficient staff, whose duty shall be to enforce all ordinances covering fire hazards, fire prevention and safety to life and property.

Thomas R. Hartnett, Chief, Racine, Wis.: I believe that everything over five gallons should be stored in underground tanks.

The law here provides that a fifty-

(*Continued on page* 656)

Nearly all of the Omaha, Neb., Fire Department Was Summoned to Fight this Spectacular Fire Caused by the Overturning of a Gasoline Transport Loaded with 3,600 Gallons of Gasoline. A Passenger in the Truck Perished in the Blaze



Drafting of Water

To the Editor:

Why cannot water be drafted thirty-three feet? A contends that at a certain height in the suction hose, gases or vapors in the water start to rise, and continue to rise as fast as the pump removes them, thus destroying vacuum.

B, on the other hand, contends that the pump removes some of the air, but that which remains at once expands to completely fill the space, although at a lesser pressure than before. A point is eventually reached at which the pressure becomes so low that the pump is unable to remove any more of the air, thus destroying vacuum. Pump is assumed to be in good condition. Which is right?

When drafting water the compound gauge shows a certain number of inches of vacuum, depending on lift, hose layout, etc.

With the suction line, pump housing and discharge line all filled with water, how does this vacuum occur? Where is it in the pump and how does it enter the line leading to the compound gauge?

T. J. N.

Answer: What primarily limits the height water can be raised by vacuum (suction) is atmospheric pressure.

If you will look at the rough sketch herewith you will better understand what we mean.

This sketch shows a pan of water open to the atmosphere, into which is inserted a tube (T), sealed at the top but capped for a suction pump.

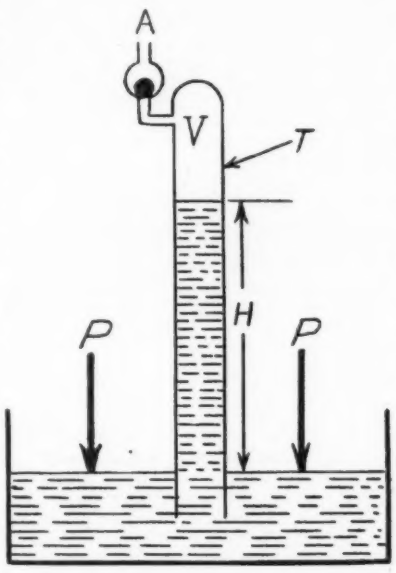
Air is removed from the tube, so there is little or no pressure within the tube. The air pressure on the outside (P), that is, the atmospheric pressure, remains the same, namely, 14.7 pounds per square inch.

This pressure forces the water up in the tube to a height such that the static pressure of the water (H) in the tube just balance the atmospheric pressure.

One pound pressure represents a head of approximately 2.304 feet of water. A pressure of 14.7 pounds would represent a head of $14.7 \times 2.304 = 33.9$ feet approximately.

Thus the maximum height which water can be lifted by suction, which is the same as the maximum height that water can be forced upward by atmospheric pressure, is 33.9 feet.

All a pump does when drafting water is to remove the air from the suction line, which reduces the pressure therein. The atmospheric pressure on the surface of the water which flows into the suction hose forces tha water up.



Of course, the temperature of the water has something to do with the problem. If water is of fairly high temperature, vapor is thrown off and it is impossible to create a vacuum above the water. With hot water, it is impossible to lift water by suction.

Answering the second question, when the suction line, pump housing and discharge line all are filled with water, you still have the so-called negative head, due to the backward pull of water in the line. Thus you will still have a reading on the vacuum gauge.

It does not require the presence of air to have a negative head. However, if there is an air space above the column of water, such as in the situation you described, there will be a partial vacuum in this space.

Stretching Hose Lines

To the Editor:

I am in charge of the auxiliary fire department organization in my town and have to plan all fire department operations.

The water supply is insufficient for the mains are small. Four 1-inch streams from hydrants, cut a normal static pressure from 67 pounds to 42 pounds on an 8-inch main.

I had planned months ago to put a 500 to 750 gallon engine at draft in a pond and pump into a hydrant at 70 pounds pressure on a 6-inch main.

When, or if, this becomes necessary, the pressure will probably drop to 50 pounds.

I would like to know your views on pumping methods. The hose line would be 300 feet long. Should two lines be used?

Should one or two lines be laid from a 500 gallon engine? Should two lines be laid from a 750-gallon engine?

How should discharge gates on the engine be handled?

Should hand churn valves be open or closed?

What pressure should automatic relief valve be set at?

I am planning at present to start pump with churn valve closed and automatic relief valve open, at a pressure of 80 pounds maximum. Discharge gates would be closed and air drawn through one gate. Hydrant would be open and water would flow from it back to engine gates. Gradually I would open those gates. Would the relief valve take care of water hammer with slow opening of discharge gates? I do not want to burst the hose or pump casing.

W. B. E.

Answer: For a 500-gallon pumper, pumping into a hydrant, where the stretch is 300 feet, two lines would be satisfactory. This would allow the pump to deliver its full capacity with a friction loss of but 45 pounds, approximately, from the pumper to the hydrant.

If a 750-gallon pumper were being employed, then three lines should be laid, employing a wye on one of the hydrant outlets with two adapters on the two hose lines to provide inlets for three lines of 2½-inch hose. If the pumper is to be run at full capacity, then the pressure at the pumper should be maintained between 100 and 120 pounds, depending on the pressure in the hydrant when water is flowing from the system.

The automatic relief valve on the pumper should be set at 120 pounds.

In placing the pumper in operation, it would be desirable to use a hose nipple with a petcock (a short section of pipe tapped with petcock) and this nipple should be attached to the hydrant, and one of the hose lines attached to the nipple. Open the petcock but do not open the hydrant at the start. Then start pump in operation after opening the churn valve. Build up a couple of pounds on the discharge side of the pumper and this will force the air out of the petcock as the water travels toward the hydrant.

While a little air might remain in the hydrant, it should not cause any serious problem. After the hose lines are freed of the air, then the churn valve is closed sufficiently to build up a pressure approximately that which is maintained at the hydrant at the time. When this pressure has been reached, then the hydrant may be opened and the engine speeded up to maintain a pressure of about 100 pounds.

There would be danger of running the pressure too high at the engine, particularly if water is not being taken from the water system, for it might impose too high a pressure on the plumbing attached to the water main system.

One precaution must be observed: if the water is polluted, then it cannot be pumped into the water mains without first sterilizing with chlorine or other chemicals provided for this purpose.

It would be possible to fill the lines with water in the method you suggest, provided there is a means of releasing the air at the pump.

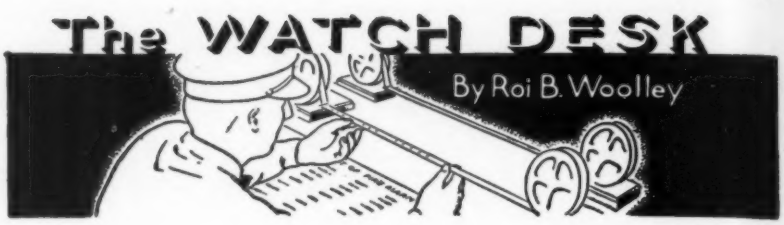
I. A. F. C. Officers and W. P. B. Representatives Meet

On August 28 a committee consisting of Messrs. George Cumming; N. A. Odom; B. S. Cogan and L. W. Lipscomb, representing the Bureau of Governmental Requirements of the War Production Board, and a group consisting of Chief Andrew T. Callahan, President; International Association of Fire Chiefs; Daniel B. Tierney, Secretary Treasurer, I. A. F. C.; Chief Peter Steinkellner, Milwaukee, Wis.; and Fred Shepperd, Manager; also Mr. I. H. Case, representing FIRE ENGINEERING, sat in conference to discuss difficulties which have been experienced recently by fire departments in securing priority numbers for sorely needed fire apparatus.

A survey made recently by the Headquarters Office showed that approximately 150 cities refused priority numbers for fire apparatus within recent months had within their borders war defense industries; also, replies received indicated that over ninety per cent of the applications for fire apparatus had been denied. It was to review the subject and to determine, if possible, whether a change in procedure could be brought about whereby cities having deficient fire protection and which had within their borders important defense industries, could secure required apparatus.

The two committees, through the conference, were able to get a better understanding of the problems of the Bureau of Governmental Requirements and the American Fire Service.

The Association officers pledged their whole-hearted cooperation to the Bureau of Governmental Requirements, and offered to do their part in solving the fire apparatus priority problem.



Our inquiring reporter overhauls the firemanic news of the day

"Dog Gone"

The Brothers of Bozeman (Mont.) lost their fire hound Mickey. Were much worried because Mickey had no teeth, couldn't forage for himself. His usual procedure was to call on Main St. stores and restaurateurs with basket in his jaws. Besides, Mickey's tongue allus hangs out, and they feared Mickey would freeze it, come cold weather. So they hunted near and far, wrote notes to papers, et cet. But that is all—our Contrib' fails to tell us the final outcome. What *did* happen to Mickey?

* * *

'Nother "Jurisdictional" Dispute!

Tisn't only the CIO and AFL that have 'jurisdictional disputes.' Lookit the Vols and Vamps! Take that squabble back in May, over at Patchogue (L. I.). According to press, 2-story home of Herbert Austin which was wrecked by fire, mighta been saved, and fire stifled in early stages, had there not been delay in summoning the fire department having "jurisdiction"—and a further delay in getting water on blaze once the *right department* arrived.

The press reports Mr. Austin's son notified Patchogue F.D. but was told the house was outside its district—about 100 feet outside. The *North* Patchogue F.D. was then notified but when they got on the ground the lads experienced difficulties with the fire hydrants, so the North Patchogue Vamps put in hurry-up call for assistance to the Patchogue group, which responded to that call-for-aid. The two departments finally got down to business and checked blaze—but not before $10,000 damage was done, according to the papers.

* * *

At (D)Awning

A sixteenth floor awning of an apartment house in New York City caught fire. The Brothers rushed up and extinguished it. But by that time, falling embers had ignited a fifteenth floor awning. The busy Brothers put *that'un* out. By that time falling embers had ignited a fourteenth floor awning. The busy, busy Brothers doused *this'un*. By that time falling embers—oh heck, you've guessed it! Right on down to the second floor the fire went—pursued by the Brothers who, by now were hottern's the awnings! Un huh—by the time they hit the second floor they didn't have to rush anywhere—there were no more awnings left. (Thanks, E. R.)

* * *

American Fire Crew Sets Record

Five Americans who joined London's fireguards to form International Brigade for London defense, should bombs again fall, hung up new record for getting a fireguard trailer pump into action. Their new mark was 80¾ seconds, to beat best British record of 82 seconds. The Britishers took their victorious "rivals" into a pub to enjoy glasses of the "amber fluid" drawn by the "honorary" bartender for the occasion, Anthony J. Drexel Biddel Jr., American Ambassador to the emigree governments. Reminds us of the hoss-days of long ago when the Kansas City drill team went over and "wiped the eyes of all fire contestants in all forms of evolutions" from Constantinople to dear ol' Lunnon.

* * *

Hot Off the Tape

It's reported from Middletown (N. Y.) way that old yule logs still are burning, following a fire last Fall, that burned a factory that made 'em. Many of some 2,000 peat moss logs that were ignited in the original fire have continued to smoulder and at one time or another have threatened to ignite nearby buildings. . . . In Gloucester (N. J.), after answering calls to 10 grass fires in 24 hours, Chief Lewis Hammill concluded *someone* had been starting 'em to hear Gloucester's new fire siren and see the engines on the job. Evidence pointed to combination of young men and lighted matches. . . . *"I wonder who will be the first to call the Fire Department at its new station,"* remarked Mrs. Paul E. Cates to her better half at dinner in their home in Fulton (Ky.). The next morning the auto' in which Mr. and Mrs. Cates were riding caught fire. Unhuh, theirs was the first alarm received at the new firehouse. . . . Peter King, 96 years old, Francistown (N. H.), died of burns and exposure eight hours after making heroic but futile attempt to rescue his 80-year old wife when fire destroyed their cottage. . . . Contrib' H. Howson of Bronxville (N. Y.) reports that following a trip to the hinterlands of Connecticut he found a up-country Fire Department that carries a rifle and ammunition as "regular equipment" on its truck. He sez they use it to kill cattle injured in fires (or on the highway?). . . . According to a report by Deputy Chief Horace Hutchins of the Somerville (Mass.) F.D., that Department worked *two hours* on fires in two unoccupied buildings in that community one day, but there was *"no loss."* You figger that'un out!. . . . Emerson R. White, 30, San Francisco (Cal.), was jailed for burning 4 old tires. . . . In these 'dog-days' it's comforting to think of John McHugh of Grand Island (Neb.) who built a fire under his car to warm up the motor. Yes, the Brothers arrived in time to save part of the garage, but John lost his car. . . . And while we're on the subject of nice cool winter fires, there was that blaze in the roof of the Shiloh Presbyterian Church at York (S. C.) which was put out by the congregation with snow balls, when fire fighting equipment was not available. . . . Historic old Tombstone (Ariz.) had its most exciting day since the roaring silver

(*Continued on page* 643)

FALSE ALARMS

"His Wife Sent It Down. . . . This is the First Time He's Driven this New Fire Truck!"

Deduction

Sherlock Holmes: "Ah, Watson, I see you have on your winter underwear."

Watson: "Marvelous, Holmes, marvelous! How did you ever deduce that?"

Holmes: "You forgot your pants."

Diner: "Two eggs, please. Don't fry them a second after the white is cooked. Don't turn them over. Not too much fat. Just a small pinch of salt on each. No pepper. . . . Well, what are you waiting for?"

Waiter: "The hen's name is Betty. Is that all right, sir?"—*Kentish Mercury.*

Way Out West in Wyoming

"Raise the right leg and hold it at right angle to the body," commanded Captain Toman.

A recruit raised his left leg by mistake, so that it was extended close to the right leg of the file at the left.

"Who's that raising both legs?" called out Captain Toman severely.

Humph!

Farmer: "Cows give more milk if you treat them with affection."

City Flapper: "A milkman will do the same thing and besides—who wants to kiss a cow!"—*Foreign Service* (Kansas City, Mo.)

Mrs. Jones: "Look, dear, how picturesque; the Browns are bringing in a Yule log."

Mr. Jones: "Yule log, my eye; that's Brown."

Farmer Finance

A farmer and a professor were sharing a seat on a train. It was getting lonesome so the farmer started a conversation and they soon became a friendly pair.

"Let's have a game of riddles to pass the time," said the professor. "If I have a riddle you can't guess, you give me one dollar or vice versa."

"All right," replied the farmer, "but as you are better educated than I am, do you mind if I only give 50 cents?"

"O. K.," replied the professor. "You go first."

"Well, what animal has three legs walking and two legs flying?"

"I don't know. Here's a dollar. What's the answer?"

"I don't know, either. Here's your 50 cents," answered the farmer.

You have all heard of the potential airman who was filling in a form and when he came to the line "Sex" wrote "occasionally."

Well, it must have been his sister who was registered at a hotel where they liked to know a lot of information regarding their guests. One question on the reservation form was, "Firm . . .? She put "Not very." —Exchange.

Oscar came to the city and got a job as janitor in a girls' dormitory, and was entrusted with a pass key to every room in the building.

The following week the dean ran across him and asked, "Why didn't you come around Friday for your pay, Oscar?"

"Vot, do I get wages, too?"

"My instructor told me I rode as if I were part of the horse."

"Did he tell you which part?"

"Don't Set the Lamp there. . . . You Know It Belongs Next to the Radio!"

This Boy *CAN* Do a Man's Job

Fighting fire is certainly a man-sized job, but men who fight fires know that the majority could have been controlled by a boy with a bucket — *if he'd been there soon enough.*

The LaBour Fire Trailer is a "boy" — but only in size, weight and cost. Its mobility and capacity are strictly man-sized. Two men can get there fast with a LaBour — it's quickly hitched to any car. They can get it through littered streets — over soft ground and weakened bridges unable to support heavier equipment. The LaBour Fire Trailer delivers a hard-hitting stream — 150 GPM at 100 lb. pressure — enough to do a man-sized job of fire fighting, yet not too much for one man to handle alone. Its operation is so simple and dependable that even inexperienced auxiliary firemen can use it to full advantage.

To be fully effective, every department should supplement its regular heavy duty equipment with LaBour Fire Trailers. They cost much less than standard pumpers, so more units can be made available in a given area, to reach any fire more quickly. *Minutes are important when fires start.*

There may not be much time left to organize your extra protection. Write today for a copy of Bulletin 49 — it gives complete details and specifications.

THE LABOUR COMPANY, Inc.
Elkhart, Indiana, U. S. A.

LABOUR FIRE TRAILER

Sirens at San Quentin

(*Continued from page* 619)

ing to get new wallpaper from our landlord for the longest time," she explained. O'Brien, always the gallant, obliged. (P.S. The lady got the new wallpaper.)

A stove backfired in a guard's home and ignited the wooden house. The S.Q. firemen arrived to find the blaze spreading rapidly and the guard's wife on the floor, out cold. While most of the crew fought the fire, others rescued and revived her. Heavy rain was pelting down at the time and as soon as the fire was out, the crews pushed back to the station as fast as they could go, which is normal procedure, anyhow. Fifteen minutes later, a huge limousine rolled up to the reservation gate to discharge a passenger who vociferously thanked the aged couple in the car. The passenger was "Blackie," one of the inmate firemen who had been left behind. He had gone to the roof to check conditions there and each crew thought he was on the other rig.

Dominion Chiefs Meet

The Dominion Association of Fire Chiefs held its Thirty-fourth annual convention at Kitchener, Ontario, on August 11 to 14.

The convention was the largest held by the Association, for a total of 130 chiefs and twenty-seven associate members were on hand.

Chief Harry Guerin of the Kitchener Fire Department, Mayor Joseph Meinzinger and Alderman A. J. Cundick, Chairman of the Fire and Light Committee, welcomed the delegates, who came from all parts of Canada, as did Chief W. A. Spalding of Preston, Ont., who is President of the Association.

Papers included in the first day's program were those by T. A. Fleming of the National Board of Fire Underwriters, New York City, who spoke on "New Fire Hazards"; Chief Harold Walton, New Toronto, Ont., whose topic was "The U. S. Army Fire Schools"; and F. X. Ahern, Deputy Fire Commissioner of Quebec, who discussed "Standardization of Hose Couplings."

At the morning session on August 12 the Provincial Fire Marshals and Fire Commissioners, the Dominion Fire Commissioner and State Fire Marshal Arnold C. Renner of Michigan addressed the assembled chiefs. Latest motion pictures on fire and defense problems were shown.

At the afternoon session District Officer Edgar A. Kirby of the London, England, Fire Brigade spoke on "British Fire Fighting in Wartime." Officer Kirby answered many questions asked him by the group.

At the Annual Banquet, Fire Marshal W. J. Scott of Ontario introduced the principal speaker, who was Lieutenant Colonel William A. Brewer (U. S. Army) of the Office of Civilian Defense, Washington, D. C. Lieutenant Colonel Brewer warned that the countries of Canada and the United States must not

relax their civilian fronts, or the enemy will attack at the weakest point.

At the morning session on August 13 F. C. Badgley, Executive Assistant to the Director of Civil A. R. P. for Canada, discussed "A. R. P. for Canada and the Fire Services." One of the problems facing the Government today, he said, is to overcome a general attitude of "laissez faire" on the part of the public, an "amused condescension" towards A. R. P. work.

He defined civilian defense as "those measures of passive defense that the civilian population can, and must, take for the protection of their own lives—the rescue and care of civilian casualties, the maintenance of public services and the protection of property in time of war."

Chief C. J. DeFields, Windsor Fire Department, in discussing "Training A. R. P. Auxiliary Firemen" urged that A. R. P. training be made compulsory.

Chief W. S. J. Walsh of Campbellton, N. B., outlined the A. R. P. organization work with special reference to his own province.

At the closing session the officers for the following year were chosen. They are as follows: President, Chief Ernest Woods, York Township, Ont.; First Vice-President, Chief J. J. O'Kelly, Ottawa; Second Vice-President, Chief William Andrews, Sudbury, Ont.; and Secretary-Treasurer, Chief James Armstrong, Kingston, Ont. Directors named to complete the board are Chief Rosaire Beaulieu, Quebec; Gordon Hall, Kitchener; and Chief Charles Vince, Guelph.

St. Catharines was selected as the 1943 convention city.

California Fire Situation Grave

California might be described as a "giant tinderbox" which might be ignited by saboteurs or enemy bombings, the California State Council of Defense was told at a recent meeting in Los Angeles.

Demanding that thousands of civilian defense workers be recruited to fight fires, Mayor Frank S. Gaines of Berkeley declared the fire danger so great that it would be "easier to burn us down than to bomb us out."

"It's no exaggeration to say that some of our combat areas on the coast are tinder boxes of flimsy wooden homes, bone dry forests and grain fields," he said. "If a general conflagration began there would not be enough firemen to fight it."

At the same meeting, the council, at the request of the chairman, Governor Culbert Olson, went on record as imploring the O.C.D. to hasten shipments to the California combat area.

In Washington, C. C. Cook, San Francisco, State Chief Deputy Fire Marshal, told officials of the W.P.B. that there is a great potential danger to California cities from forest fires.

He said that, although the State and San Francisco had each appropriated $3,000,000 for purchase of additional fire fighting equipment, they had been unable to get priorities for it.

While he was still there, San Francisco, through Civilian Defense Director Jack Helms and State Senator Jack Shelley, was able to get priorities for 356 auxiliary pump units. However, they apparently would be of little use for the WPB refused priorities for the necessary hose, couplings, nozzles for them. Worse than that, the pumps, mounted on trailers, have no tires.

BOB GREENOCK.

the PERSONAL TOUCH
MODERN machine tools—in the hands of experienced operators—are important factors in the production of WATEROUS Fire Pumps.
The combined experience of these men, together with their ingenuity and adeptness, is your assurance of the dependability of WATEROUS Fire Pumps. Specify WATEROUS on your new fire apparatus.
WATEROUS COMPANY ★ ST. PAUL, MINNESOTA
Waterous Dependable
WATEROUS
CENTRIFUGAL-ROTARY
FIRE PUMPS

ALL OUT

has a different meaning these days

There once was a happy time when "All Out" meant "Pick up, boys, we're going back to the station." But war changes everything. "All Out," these days, means "Get out, boys, do everything you can with everything you have."

Get All Out Performance with Your Homelites

If you have a Homelite Portable Generator, make it do everything it can. Use it, of course, for floodlighting on all night fires. *But in addition*, make it available to your community as a standby power unit for operating police or fire signal systems; or for operating emergency lights in hospitals, airports, military headquarters, or public buildings during power failures; or make it possible for your local defense organization to use it during emergencies.

Prevent Wear Out of Your Homelites

New Homelites are practically impossible to get, due to war commitments. So take the best of care of the Homelite units you now have. Our free service manuals show how to prevent common causes of unnecessary wear. Get copies of these manuals now. Specify, when writing to us, the model and serial numbers of your units.

HOMELITE CORPORATION

PORT CHESTER, N. Y.

WHAT'S BURNING?

THE following list includes fires of $50,000 loss and over in the United States and Canada, for the month of September, 1942. These figures, compiled from the telegraphic reports, are based on estimates made at the time and are subject to later investigation and consequent revision. Taken as a whole, however, they are an approximately correct view of the losses incurred. The figures represent losses in thousands of dollars.

Month Ending September 30	Loss in Thousands of dollars
Buell, Va.—Tankage plant of Smith-Rowland Company destroyed	125
Charleston, S. C.—House owned by Prince and Princess Guido Pignatelli, including valuable art objects and furniture destroyed	325
Boscawen, N. H.—Penacook Fibre Co. mill destroyed	65
Vancouver, Wash.—Farm dwelling and all bldgs. of Tom Blair destroyed	50
Toronto, Ont.—White Hardware Co. warehouse and North Toronto Hardware Co. store destroyed	600
Glasgow, Mont.—Farmers Union Oil Co. destroyed	80
Rockford, Calif.—Cottoncavaredwood Co. sawmill destroyed	250
Rockport, Calif.—Rockport sawmill and adjoining power plant destroyed	425
Metropolitan, Calif.—Virginia Hotel destroyed	50
O'Neill, Neb.—Tri-State Produce Co. destroyed	200
Taunton, Mass.—Bldg. housing National Silver Co. and F. B. Rogers Co. destroyed	170
Bemidji, Minn.—Dunham Lumber Co., Standard Lumber Co. and Dickinson Construction Co. damaged	65
St. Marys, W. Va.—Paramount Glass Co. plant destroyed	125
Great Valley, N. Y.—Block Bros. box factory destroyed	50
Cody, Wyo.—Pahaska Tepee's ski and hunting lodge destroyed	65
Los Angeles, Calif.—Milo Harding Duplicating Machinery Co. plant damaged	65
Bakersfield, Calif.—England Lumber Co. yards damaged	50
Salem, Ore.—Oregon State Penitentiary damaged and 2,000 pounds of flax and sheds destroyed	100
Hamilton, Ohio—Sears, Roebuck and Co. store damaged	65
Ironton, Ohio—Schneider Funeral Home in Chesapeake damaged	50
Trenton, Mich.—Trenton Valley Distillers Corp. plant damaged	170
Sparta, Tenn.—City hall and fire station destroyed, hotel and jewelry store damaged	170
New Albany, Ind.—Coal elevator of Finger 'Tothers' Coal Co. damaged	50
Davenport, Ia.—Mississippi River towboat, the Helen H. destroyed	80
Princeton, Ind.—Coach shop of Southern Railroad damaged	50
San Francisco, Calif.—Metten & Gebhardt tannery damaged	170
Salt Lake City, Utah—Auerbach Dept. store damaged	170
Quebec, Que.—Victoria Hotel and barber shop, restaurant, tavern and radio station studio destroyed	80

Ex-Chief Kellogg Dead

Charles A. Kellogg, Chief of the Long Hill, Conn., Fire Department for several years and well known in Connecticut fire circles, died at his home on September 10 after a month's illness. He was also Fire Warden for the Long Hill District for a long period during his thirty years' residence there.

Chief Kellogg was born in New Fairfield, Conn., and is survived by his wife, six daughters and three sons. Two brothers also survive him. Funeral services, with fire officials from several towns in lower Fairfield County in attendance, were held on September 13.

THOMAS E. MAGNER.

The Watch Desk

(*Continued from page* 638)

camp days of the 1880's when fire swept its business district. . . . While members of Montana State Firemen's Assn. were enjoying their convention dance, a fire started in warehouse nearby. Some of Brothers excused themselves, rushed to blaze, rescued three persons overcome by smoke, then returned to resume dancing (according to Hamilton (Mont.) contrib'). . . . Lightning started fire in warehouse in Woonsocket (R. I.) which destroyed 350,000 lbs. of waste material and wool, injured four firemen. . . . Sergio Bernstein, who came to this country from Italy via France some months ago and likes to dabble in amateur chemistry had his left hand blown off and received other injuries in a home laboratory explosion. *"I'm sorry to make all this mess"* he murmured as he was taken to hospital. . . . Two young New York girls died when fire swept small cabin they shared at summer camp for girls at Lake Hosmer, near Albany (Vt.). A counselor was burned trying to save them. . . . In another fire at Atison Lake (N. J.), a Philadelphia family of three burned to death in destruction of a 4-room cabin. . . . For first time in 20 years San Quentin (Calif.) prisoners were dispatched to fight fires in brush and timber. They're paid 45 cents per hour. . . . At least six were killed, four injured seriously when a slag pile at Oakwood smokeless coal mine exploded and buried miners' homes in the area, near Oakwood (Va.). . . . Phillip Buhler, 84, left an orphan by the great Chicago fire of 1871 was burned to death when overturned kerosene lamp set his clothing afire (thanks to Earle Robinson for this'un). . . . Mr. and Mrs. Avery Fultz of the Pension Mountain Community (Ark.) were motoring to Berryville (Ark.) when their auto' caught fire. They'd almost abandoned hope of saving it when they remembered they had a can o' milk aboard. One douse, and fire went out. . . . That reminds us of a like affair, where firemen of Santa Rosa (Cal.) used vinegar to save $60,000 vinegar factory of Rudy Oehlmann during a water shortage. They sank suction hose into several 5,000 gal. vats—held loss to $20,000.

* * *

"Engine-uity"

They're smart—the Brothers of Freeport (Tex.). When called to answer a call for aid from their neighbor town of Velasco, which has no fire hydrants, and went to work with their booster, they very quickly used the 100 gal. supply in an effort to extinguish flames in a pile of railroad cross ties and a Missouri Pacific car, on the track nearby.

With booster exhausted, and no visible water supply handy, one of the brightminds bethought himself that the switch engine, with its supply of 2000 gals. of water, could be brought from the nearby roundhouse, and made to furnish the supply for the pumper. No sooner said than t'was done. By using hard suction hose water was transferred from the engine to the booster tank, and the blaze soon quelled.

Our belated thanks to Robert E. Garrison, Freeeport, Tex., for this news item. And thanks for your kindly comments about this column.

* * *

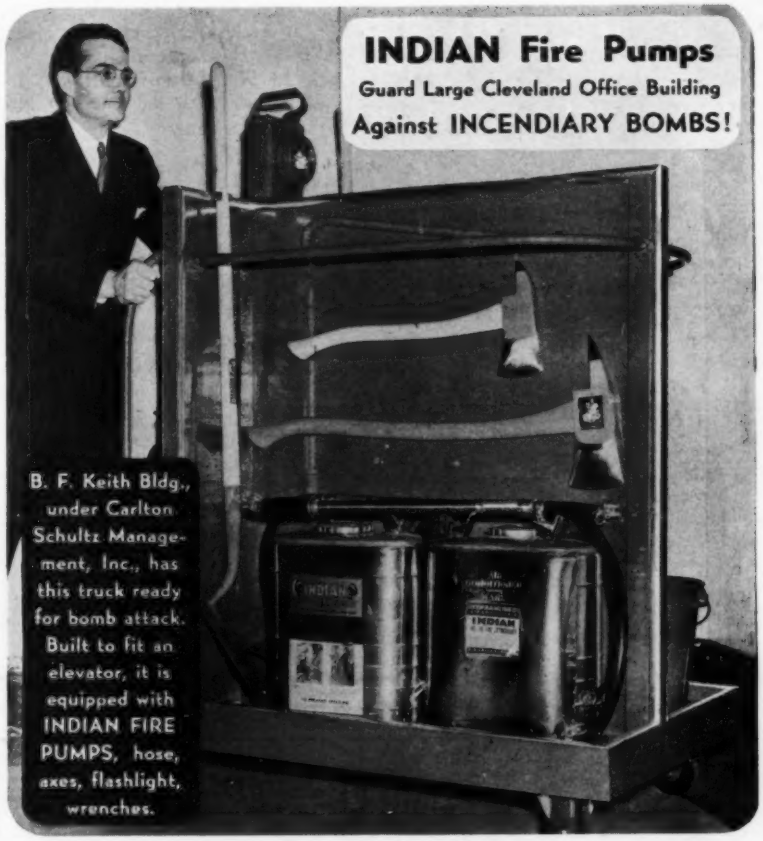
More Quick Work

We publish the following note sent us by a member of the Fulton Fire Co.,

Here's an Idea—

★ *which is well*
★ *worth your*
★ *recommendation*
★ *to those*
★ *preparing*
against

Air Attack!


INDIAN Fire Pumps
Guard Large Cleveland Office Building
Against INCENDIARY BOMBS!
B. F. Keith Bldg., under Carlton Schultz Management, Inc., has this truck ready for bomb attack. Built to fit an elevator, it is equipped with INDIAN FIRE PUMPS, hose, axes, flashlight, wrenches.

The all-purpose truck shown above offers a mobile, speedy method to combat fire from the air. The INDIAN FIRE PUMPS are kept constantly filled, ready for immediate use. Long length of hose, attachable to any faucet, is part of the outfit and facilitates quick refilling if necessary. Factories, hotels, hospitals and numerous other institutions might well include such an outfit as part of their Air Raid precautions. Adjustable nozzle of the INDIAN FIRE PUMP throws powerful straight stream for general fire fighting or long distance spray for incendiary bomb control. CLEAR WATER ONLY IS USED—NO CHEMICALS.

SEND FOR NEW DESCRIPTIVE CIRCULARS

D. B. SMITH & CO., 406 Main St., UTICA, N.Y.

PACIFIC COAST AGENTS:

Hercules Equipment & Rubber Co., 550 Third St., San Francisco, Cal.
Carco-Conwhit Sales Co., 520 S.W. Pine St., Portland, Ore.
The Conwhit Co., Klamath Falls, Ore.
Mill and Mine Supply, Inc., 2700 4th Ave. S., Seattle, Wash.
Roy G. Davis Company, 617 E. 3rd St., Los Angeles, Cal.

BUCKEYE Fire Equipment HEADS THE LIST

In large, medium sized and small Fire Departments, all over the country, Buckeye Fire Fighting Equipment HEADS THE LIST.

The Buckeye Line consists of a complete assortment of Shut Off Nozzles that WON'T LEAK; Exhaust Whistles that produce a piercing, attention-compelling sound easily heard above traffic; Roto-Rays that instantly identify a fire truck or emergency car while many blocks away; expanders that take segments from ¾" to 3", inclusive; and many other invaluable aids to Fire Departments. Write today for Catalog showing All Buckeye Fire Fighting Equipment.

Fig. 935
Buckeye Junior
Exhaust Whistle

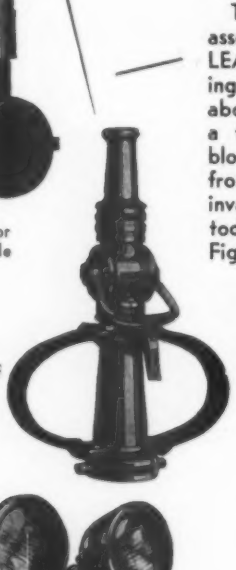


Fig. 900
2½" Shut-Off
Nozzle

BUCKEYE IRON & BRASS WORKS
324 E. Third Street
DAYTON, OHIO

Fig. 926
Expander

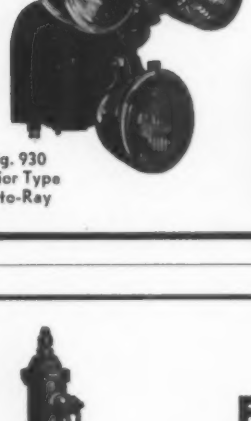


Fig. 930
Junior Type
Roto-Ray

BUCKEYE
Fire Department Accessories

EDDY
Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience goes into their manufacture and they embody valuable and exclusive features.

Write for the FACTS.

EDDY VALVE CO., Waterford, N.Y.

Chester (Pa.) some time ago, but unfortunately overlooked.

"One of the popular members of the above fire company died suddenly while fighting a fire in his garage. The floral offerings were so numerous that the company was asked to use their new pumper to carry the flowers to the cemetery. On returning from the cemetery to the fire station, driver Bob Spicer noticed a girl running to a fire alarm box. Bob pulled in at the box as the young lady pulled the hook on the box. He asked her what was the trouble. The young lady replied by jumping onto the pumper and directing Bob to the scene of the fire, which was in the rear of her home. Results were, the job was completed by a booster line with very small damage."

Thank you, and pardon for the delay in publishing this interesting item.

* * *

Things Are in "Bad Odor" in Malden

Chief Dan. Tierney of Arlington (Mass.) sent us "odoriferous" story about a rubbish fire in Malden (Mass.) which developed into a three-alarm blaze that destroyed two dwelling houses and three barns, damaged two other houses, ruined an auto, and drove fire families out of their homes. Point of the yarn is that as excitement wasn't sufficiently high in the neighborhood, when the Brothers were battling the blaze in seven structures, two skunks sauntered from one of the blazing barns, where they encountered a neighbor's dog. Upshot of this was the sudden departure of the canine, the death of both "pussycats," evacuation of a sixth family from home where one of the perfumed pests had taken refuge and considerable retreat on part of spectators. In the "slanguage" of the Brothers, **"Boy! did they take a terrible feed!"** Chief Dan says the incident suggests the use of these pets as **auxiliary policemen!"**

* * *

Thanks!

We'd like to take this opportunity to thank the numberless readers of this column for their well-wishes in connection with our accident while "in action." Glad to say we're up and around again but it looks like "light duty" for us for some time to come.

* * *

Hot—and Heavy Mail!

The mail finally grew **"too cussed, infernal heavy, especially that third-class and government mail,"** said 51-year old postman John Clay of North Bend (Neb.), so he put 351 pieces in the furnace and burned it.

* * *

Fried Squabs a la Siren

Sounds like a tabloid scarehead, but here's what happened, according to a new contrib' from Kansas—K. R. Out in Humboldt, that State. Fire Chief Loppers pressed the button to sound the local siren—and strange to relate, he started a fire by so doing. When he pressed said button, the siren declined to function. Investigating, the Chief found that pigeons had been roosting in the motor and they got caught when he started it, causing a short circuit, which, in turn started a small fire, which the Brothers quickly doused. Deponent saith not who ate the squabs, or what happened to the fire for which the Chief was trying to sound siren in the first place.

WAR FARE

Alarms and Discussions Clipped and Culled from the War News of the Day, of Interest to the Fire Service.

Roi B. Woolley

What's Burning

Although the press assures us that sabotage trom fire is not on the increase and that the Fire Service (and the people) have nothing to fear, the reports of serious fires of "undetermined" or "suspicious" origin, or "cause unknown" continue to increase in that self-same press. Here are examples:

NEW BRUNSWICK: Blast in 2-story building killed one, injured eight. Explosion occured in chemical plant—cause unknown. Not developed whether concern was working on war orders.

TRENTON, N. J.: The rubber shortage got a boost when 3,000 old tires burned in storage yard of Near-Para Rubber Company in Hamilton Township. Believed "maybe a cigarette caused fire"!

IONA ISLAND, N. Y.: One dead, one dying was report of explosion in Naval arsenal at this place. Three civilian employees received minor injuries. Cause—not gven.

LOS ANGELES, CAL.: Premature explosion of a shell being fired from 60 mill. mortar killed 5 soldiers, wounded 16 near LaMesa in San Diego County.

EATONTOWN, N. J.: Agents of FBI are investigating forest fires which menaced Army encampment and homes, destroying 200 acres of woodland. Fire Wardens believe these and other Jersey fires were set.

KINGS MILL, O.: Five workmen were killed, over dozen others injured in series of explosions that wrecked storage section of Kings Powder Mills plant. Agents of FBI immediately started investigation.

PITTSBURGH, PENN.: Explosion that wrecked the plant of Central Railways Signal Co. at suburban Versailles killed 8 young women, injured 11 other employees. Plant claimed it was not in war work. Cause—?

PROVIDENCE, R. I.: At least three, and perhaps more forest fires, which destroyed much property in six townships were believed to have been set.

WALLINGTON, CONN.: Explosion demolished small building at M. Backes Sons, Inc. fireworks manufacturers engaged in war production, killing one workman, critically injuring another. Cause—you guess.

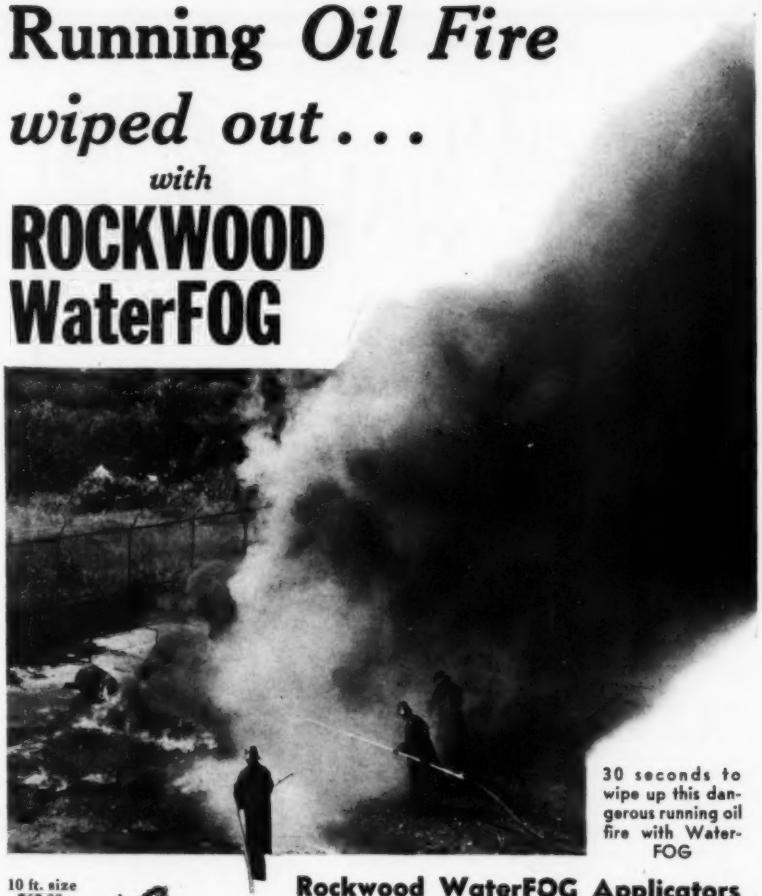
BALTIMORE, MD.: A $900,000 fire which for a time threatened large oil and gas' storage tanks on waterfront destroyed an automobile supply house including much irreplaceable auto parts, paint, etc. Cause—?

MIDLAND, ONT.: A $500,000 fire destroyed two naval craft and large building of Midland Boat Works and eight houses. Mutual aid employed. Cause—?

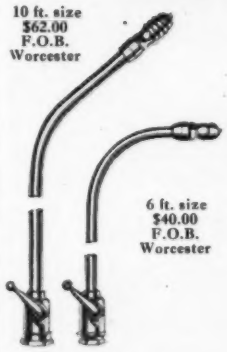
WAYNESVILLE, N. J.: Thunderous explosion at distributing plant of Standard Oil Co. of N. J. killed four, injured 8 others seriously. 40,000 gallons of gasoline ignited, plant and two nearby houses burned. Cause—you guess.

MEXICO CITY: An explosion in shell loading section of black powder factory southwest of Mexico City damaged plant, injured two women workers. Four firemen were killed when roof fell in, and 9 others were injured. "No evidence of sabotage,"

Running *Oil Fire wiped out . . .* *with* ROCKWOOD WaterFOG



30 seconds to wipe up this dangerous running oil fire with WaterFOG



10 ft. size $62.00 F.O.B. Worcester

6 ft. size $40.00 F.O.B. Worcester

Rockwood WaterFOG Applicators with ball-type shut-off. Fit existing hose lines.

Type N-20
¾" size $15.00
1" size $15.00
1½" size $25.00
2½" size $33.00
F. O. B. Worcester

Comes in four sizes to fit existing hose lines. Projects a larger WaterFOG pattern greater distance by a new method.

Rockwood WaterFOG Applicators

You will find many uses for the handy Rockwood WaterFOG Applicators. Use them singly or in multiples of two or three to quickly clean up large area fires of flammable liquids such as fuel oil, kerosene, mineral spirits, incendiary bombs, etc. Protect storage tanks from ignition by radiant heat. WaterFOG will keep exposed materials cooled below their ignition point. Or use the Applicators to fight fires in confined areas such as cellars. Poke the Applicator thru a window or other opening and watch smoke and flame disappear as WaterFOG cleans up. Water FOG works just as effectively on ordinary combustibles.

Rockwood N-20 WaterFOG Nozzles

You can use WaterFOG on large fires impossible to extinguish with the low range of other types of fog or spray nozzles. You have fire fighting distance of 50 feet at 100 lbs. pressure with the 2½ inch size of the Rockwood type N-20. This is possible by the use of an advanced new method developed by the Rockwood research engineers known as the *internal impingement* method of generating ana projecting fog. *Low* velocity WaterFOG particles with their greater extinguishing action are projected right into the heart of the fire by means of the proper amount of *high* velocity WaterFOG induced into the low velocity pattern. For use on fires in flammable liquids and oil filled electrical equipment.

Order from your regular fire equipment distributor

ROCKWOOD SPRINKLER CO.

Specialists for 36 years in the Manufacturing and Installation of Fire Protection Equipment

54 HARLOW STREET WORCESTER, MASS.

Specify HALE

because every Hale pump, centrifugal or rotary, is the result of constant laboratory and field research.

Constant research results in constant improvement.

Write today for the Catalog and Folders on the complete line of Hale Pumps.

HALE FIRE PUMP COMPANY
CONSHOHOCKEN, PA.

☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆

YES! Pacific Portable Pumpers are enlisted for this war. Military demands and priorities curtail vital materials. Our endeavor has always been to render the best in quality and service. Your understanding and consideration of our position in these trying times is greatly appreciated.

Fire Fighting Equipment Division

PACIFIC MARINE SUPPLY COMPANY
SEATTLE, WASHINGTON

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CLASSIFIED ADVERTISING
Bids Wanted, For Sale and Help Wanted, $5 per inch. Position Wanted, $2.50 per inch.

WANTED

Jobbers to sell our Morning Pride Firecoat, with Wing Freedom Sleeves, Chest Protector, Face Protecting Collar, Waterproof-Wool Wristlets, No Dirt Pockets. Made from Protected Rubber Fabric. Write today. Morning Pride Mfg. Co., 1986 Home Ave., Dayton, Ohio.

WANTED—MANUFACTURER

to take over manufacture of new Portable Lightweight High Pressure Pump with potentially wide market in fire protection field. Complete information on request. Address: Box No. 30, c/o FIRE ENGINEERING, 24 W. 40th St., New York.

but it was third accident in plant in recent months.

LISBON, PORT.: At least 10 persons were killed, 16 injured in an explosion that partially destroyed a supply company. Cause "not determined."

ANTOFAGASTA, CHILE: Three persons were killed, 6 injured in explosion in sulphur plant. Two persons arrested—dynamite being found in their homes.

MARION, ILL.: Broken wheel derailed 24 tank cars loaded with valuable oil, set three ablaze, threatened remainder.

HARLAN, KY.: Firemen brought under control second outbreak of fire in a big oil refinery here, 17 hours after it was started by explosions. Four of 14 tanks gasoline of 25,000 to 50,000 capacity were left in ruins.

Ex-Chief Mahoney Dead

Thomas H. Mahoney, retired Chief of the Westfield, Mass., Fire Department, died on September 7.

Chief Mahoney was retired on March 1, 1937, after completing sixty-one years of continuous service in the Fire Department. At the time of his retirement, Chief Mahoney was the oldest active Fire Chief in the state.

The Chief joined the call force on October 5, 1876. He became secretary-treasurer of Hose Company No. 2 on July 1, 1877, assistant foreman on May 1, 1885, foreman on May 7, 1886, and a member of the Board of Fire Engineers on May 1, 1894. Upon the death of the fire chief, he was appointed Chief on November 1, 1910.

Chief Mahoney was a member of the Massachusetts Fire Chiefs' Club, the New England Association of Fire Chiefs and the International Association of Fire Chiefs.

Chief Brennan Returns to Duty

Fire Chief Charles J. Brennan of the San Francisco, Cal., Fire Department, who has been off the active list since he suffered a heart attack while fighting a fire last June, has returned to active duty.

Assistant Chief Albert J. Sullivan has been acting chief in his absence.

Al Houghton Joins Army

It is both with pride in his success and sincere regret at his loss to this organization that Case-Shepperd-Mann Pub-

Lieutenant Alfred J. Houghton

lishing Corp., publishers of FIRE ENGINEERING, announce that Alfred J. Houghton, Eastern representative of this company for the past five years, has been commissioned a First Lieutenant in the Sanitary Corps of the Medical Department, U. S. Army.

Lieutenant Houghton left October 6 for Carlisle Barracks, Carlisle, Pa., where he will be stationed for the time being.

Defense Conferences Held on Pacific Coast

A series of fourteen conferences are being held throughout the Ninth Region of the Office of Civilian Defense for the exchange of ideas and a thorough discussion of the problems confronting the civilian defense services.

The first of these meetings was held at Los Angeles for the Southern California Fire Chiefs. Another meeting was held in Palo Alto for the Northern California Fire Chiefs, and meetings have also been held at Sparks, Nevada; Baker, Oregon; Prescott, Arizona, and Seattle, Washington.

A similar conference was held in Spokane, Washington, on September 4 and 5. A demonstration of incendiary bombs was staged by the War Department's School.

Some of the subjects discussed were control centers, allocation of equipment, priorities for the purchase of equipment, deferments of trained firemen and responsibilities of civilian property officers in relation to OCD equipment.

Incendiary Bombs

Civilian defense officials will hereafter have to apply to the Chemical Warfare Service of the United States Army to buy incendiary bombs for demonstration purposes, the War Production Board announced recently. The designation of the Chemical Warfare service was made in an amendment to Order L-115, which states that sale and delivery of incendiary units could be made only on written authorization of the Army or Navy.

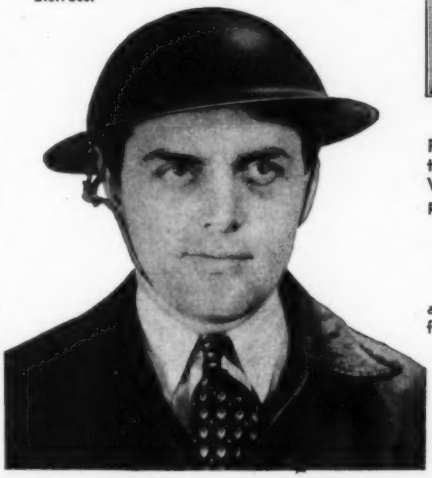
FIREMEN ARE UNITED FOR ALL OUT *Victory* DRIVE

Firemen everywhere are unitedly cooperating to protect homes, institutions and industries against fire, as well as being on the alert for enemy bombers. To do this requires trained, fearless men and efficient equipment.

Acme FULL VISION All Purpose Gas Masks are being used by firemen to protect themselves against Smoke Suffocation, Toxic Smokes, Carbon Monoxide poisoning, manufactured illuminating gas, plus all individual or combinations of gases.

Only a light tension is necessary to hold the Acme Gas Mask in a gas-tight position, thereby eliminating all pressure points which cause unnecessary headaches, or physical distress.

The above illustration reveals the wide, FLAT Safety Glass Lenses that enable the firemen to enjoy non-distorted FULL VISION to all sides. This is an exclusive patented feature in all Acme Gas Masks.



Head Protection

During the emergency, firemen need assured Head Protection against falling fragments.

Pictured to the left is the Acme Doughboy type Alloy Steel Helmet which provides the utmost in Head Protection. The Helmet is adjustable to any head size, and is cushioned inside to relieve shock.

Write for Prices and Literature TODAY

ACME PROTECTION EQUIPMENT COMPANY, INC.
Manufacturers
3616 LIBERTY AVENUE Cable Address: ACMEPROCO PITTSBURGH, PA., U.S.A.

We Can Supply Any

BOOKS

on any phase of

FIRE FIGHTING OR FIRE PREVENTION

at publishers' regular list prices.

CASE-SHEPPERD-MANN PUBLISHING CORP.

24 WEST 40TH STREET NEW YORK, N. Y.

IMPROVED INCENDIARY BOMB PUMP

Designed for extra sturdiness and maximum efficiency

The two cylinders provide constant quick pressure on both the up and down stroke. All working parts accurately machined, including the two-way slide type nozzle, for mist spray or straight spray.

Other type bomb pumps of larger size with containers complete also manufactured, as well as fire hose nozzles, wheels, plugs, caps, etc.

The CAMPBELL-HAUSFELD COMPANY
402 Railroad Avenue, Harrison, Ohio

DON'T FIGHT FROZEN HYDRANTS

Frozen hydrants are a thing of the past if your installations are Mueller-Columbian because there can be no water remain in the hydrant barrel to freeze. Large double drain valves operate positively with the action of the main valve. There are no springs, plungers, toggle joints or synchronized mechanisms of any kind to get out of order. Don't let frozen hydrants handicap you. Insist upon Mueller-Columbians.

MUELLER CO.
CHATTANOOGA, TENN.

Manufacturers' Announcements

Powhatan Brass & Iron Works Celebrates Anniversary

The Powhatan Brass and Iron Works of Ranson, W. Va., celebrated its fiftieth anniversary as a manufacturing plant on September 12th.

The company was organized on September 12, 1892, although the plant was built a year before that.

In former years it manufactured plumbing goods and material for the natural gas fields, and fire protection items. In recent years they have devoted their efforts exclusively to fire equipment for buildings, boats and fire departments.

Officers of the company are Charles H. Simmons, President; C. F. Reininger, Vice-president and General Manager; Charles H. Smith, Honorary Second Vice-president, and William W. Graham, Secretary and Treasurer.

"Tinless" Tin Cans Used by Macmillan

"Tinless" tin cans, grown on the farm and cattle range, were announced recently by the Macmillan Petroleum Corporation, Los Angeles, Cal. This new development is the first all-fiber plastic-lined container which is impervious to oil.

The tinless container is produced by direct processing of such surplus crops as corn, other grains, flaxseed, tallow, animal tissues, bone and clay; and the basic fiber is made from straw and waste paper. In addition to solving the use of tin for packaging, the all-fiber containers represent a ten per cent reduction in weight over the cans previously used, thus permitting more oil to be shipped per freight carload. These containers will be used for packaging motor oil, but it is possible to foresee their eventual use in packaging other articles formerly sold in tin cans.

Sullivan Now General Sales Manager

Promotion of Arthur G. Sullivan to the position of General Sales Manager of the Buffalo Fire Appliance Corporation, Buffalo, New York, has been announced by Charles H. Stephens, President of the firm.

Arthur G. Sullivan

Mr. Sullivan joined the Buffalo Fire Appliance Corporation in the capacity of Sales Manager of the Apparatus Division several years ago and during that time has ably promoted the sale of Buffalo Fire apparatus throughout the United States and abroad.

In his new capacity of General Sales Manager of the Company, Mr. Sullivan will have full charge of sales not only of motor fire apparatus but also of Buffalo portable and wheeled fire extinguishers.

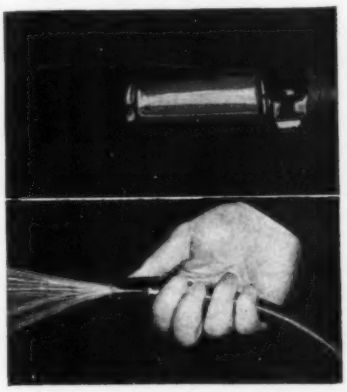
Prior to his association with the Buffalo Fire Appliance Corporation, Mr. Sullivan had wide experience in the fire fighting equipment field over a period of some twenty-five years. He is regarded throughout the industry as an authority on the subject.

The Buffalo Fire Appliance Corporation was established in 1895 and has been manufacturing fire fighting equipment in ever increasing quantities since that time.

The Old and New in Motor Lubricant Containers
Upper: The newly developed all fiber carton. Below: The rapidly disappearing tin can.

Thumb-Spray Attachment for Extinguishers

Some fires, such as magnesium incendiary bombs and certain industrial fires, are fought with spray as well as a solid stream. Most standard fire extinguishers,



Two Views of "Thumb-Spray" Attachment

however, discharge only a solid stream. Consequently, the "thumb-spray" nozzle attachment has been developed by the Pyrene Manufacturing Company, Newark, N. J., for converting present extinguisher equipment to wartime needs. It simply clamps over the nozzle of any standard soda-acid, foam, gas cartridge or pump tank fire extinguisher.

The "Thumb Spray" is a permanent attachment made of spring steel with a deflector edge which influences the range and distribution of the spray for maximum effectiveness. This safety device is a constant reminder to the operator to use a spray on certain industrial fires which can be approached within six or eight feet or to speed the burning and disposal of a magnesium bomb.

Protecting Firemen's Coats

After fire department coats have been in service for some years, they are apt to lose their water-shedding ability. Extensive tests have shown that Canvex, a clear solution primarily developed to treat fire hose and salvage covers to prevent mildew and waterproof the fabric of the hose, is particularly effective in re-conditioning fire coats. Application of this solution will restore the water-shedding ability of firemen's coats, and put them in shape for years of additional service.

Canvex is manufactured by the Soilicide Laboratories of Montclair, New Jersey.

Circular Published

A circular describing typical installations of air raid sirens, has been published by the Federal Electric Company, 8700 South State Street, Chicago, Ill.

Alcofoam Powder for Alcohol Fires

The American - LaFrance - Foamite Corporation of Elmira, N. Y., has developed an all-purpose fire-foam that snuffs out flames in alcohols, ketones, esters, ethers, and a number of other solvents. It is equally effective on petroleum fires also.

(*Continued on page* 652)

MIDWESTERN
PROTECTIVE CLOTHING

★ Production at Midwestern has been stepped up and is still the most reliable source of supply for firemen's clothing. The needs of America's armed forces come first, but municipal needs, particularly in defense areas, can be filled. Order needed articles as far in advance as possible. ★

Design No. 802

A Life Saver
Fireman's Safety Coat

Yellow stripes of Original Midwestern Safety Coat make firemen FAR MORE visible during both day and night than any other color. Midwestern Safety Coats reduce accidents and deaths because firemen can be plainly seen while fighting fire.

No. 101

FIREMAN'S BUNKER PANTS

Removable wool lining and equipped with the celebrated Midwestern safety snaps . . . can't catch on anything. Cloth crotch pads for pole sliding. Order yours today.

MIDWESTERN MFG. CO., MACKINAW, ILL.

WANTED — *IMMEDIATELY!*
IDLE FIRE FIGHTING EQUIPMENT

Today—right now—there are many American communities and municipalities which sorely need additional fire fighting facilities to give their citizens adequate fire protection and are unable to secure these because of war conditions.

Search your own department or fire stations for any surplus apparatus or old usable equipment and *offer it for sale* through the classified "Opportunities" columns of this magazine. Rates are low—only $5 per inch.

FIRE ENGINEERING, 24 W. 40th Street, New York, N. Y.

Buffalo
TRAILER PUMPER

Specifically designed as auxiliary equipment to reinforce standard fire apparatus in combatting multiple fires, the Buffalo Trailer Pumper is matched to the exacting demands of sustained pumping. Ruggedly, compactly constructed. Easily transported by coupling to car or truck. Meets Underwriters requirements with capacities of 500 and 600 G.P.M. Has accommodations for 400 ft. of 2½" hose. . . . Skid mounted pumping units of same capacities also available. Details on request.

BUFFALO FIRE APPLIANCE CORP.
52 Central Avenue Buffalo, N. Y.

JANESVILLE QUALITY FIRE COATS

Our coats are giving excellent satisfaction in most of the large fire departments throughout the U. S. and
THERE MUST BE A REASON WHY SO MANY FIREMEN INSIST ON JANESVILLE QUALITY
Rubber and Duck Coats and Bunkers, Boots, etc.
We also manufacture White Striped Safety Coats.
JANESVILLE APPAREL CO.
JANESVILLE, WIS.

Correspondence

Firemen Wanted for Alaska

To the Editor:

At this time we are adding to the Fire Department at Dutch Harbor, and I am interested in employing about thirty-two additional firemen, in addition to a few men new in the game that would like to advance their knowledge under war conditions, and at the same time be of service to the nation.

Under the new setup, quarters are better than most departments in the States. If you know of such men, I would like to receive a letter from them stating their background (experience, age, etc.).

Cordially,
HAROLD JOE DAVIS, Chief,
Fire Department,
Naval Operating Base,
Dutch Harbor, Alaska.

Recruiting Auxiliary Firemen

To the Editor:

An example of how the auxiliary firemen can help the regular fire department in recruiting auxiliaries in cities where many more volunteers are needed, was the work of the Friendship Fire Association, Washington buffs. The "Washington Star" had just run a series of articles on the auxiliary police, but up to that time the newspapers had paid very little attention to the auxiliary fire service. Roy A. Wiseman, of the executive staff of the National Symphony Orchestra, and a member of the Friendship Fire Association, wrote to the editor of the "Star" pointing out the work of the auxiliary firemen and suggesting that there was great story value in their work.

Not only did the "Star" publish this letter, but immediately got in touch with Mr. Wiseman and Lester H. Steinem, corporation counsellor and Assistant Chief of the F. F. A., stating that they had assigned one of their staff writers to do a series of articles about the Washington Auxiliary Fire Service. Chief Edward Gookin and the members of the Association put the reporter in touch with Chief Stephen Porter of the Washington Fire Department and other key men in charge of the drive for new recruits. In addition, the members of the F. F. A. drove the newspaper man and his photographer to the various fire stations. The result was a series of front page, strikingly illustrated articles in the "Star" every night for almost a week. The ultimate result was the recruiting of many badly needed members for the Auxiliary Fire Service.

Very truly yours,
ROBERT D. HEINL, Member
Friendship Fire Association

Remedying a Serious Situation

To the Editor:

Recently we experienced something new in line of duty, which may be of advantage to other fire departments is a similar situation.

On August 23, shortly after midnight, we answered a call to the Booth Memorial Hospital in our city where a gasket on a large steam boiler had blown out. The hospital attendants were much alarmed because of the intense heat and steam which prevented the firemen from entering the room and extinguishing the fire from the firebox of the boiler. An explosion was feared imminent. A line of hose equipped with a foz nozzle tip was turned into a window of the boiler room and immediately the steam was condensed, permitting entry by firemen who removed the fire from the firebox, thereby remedying a serious situation.

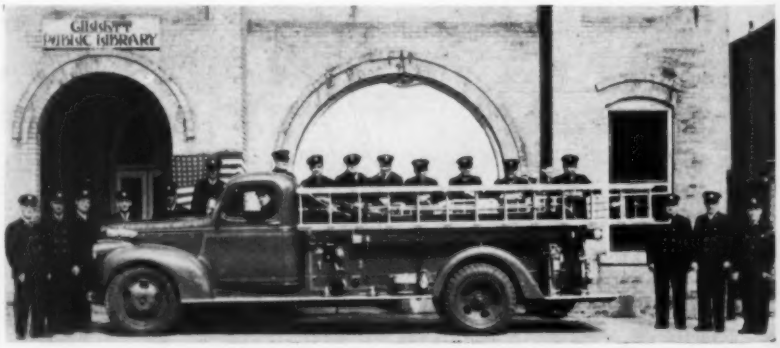
I believe we used the best method possible in this instance and hope that our experience will be helpful to some department in a like circumstance.

Very truly yours,
F. A. NORTHCUTT, Chief,
Covington, Ky.

Officers of the North Carolina Firemen's Association

At the annual convention of the North Carolina State Firemen's Association held at Greensboro, N. C., on August 10, 11 and 12, the following officers were elected:

Chief Charles L. Burkett, Salisbury, President; Chief Frank W. Bennett, Durham, Vice-President; Chief John L. Miller, Concord, Secretary; Ed A. Johnson, Assistant Chief, Kannapolis, Treasurer; and A. W. Brinson, New Bern, Statistician. The Advisory Board consists of R. A. Joyner, Farmville, and Chief J. C. Fitzgerald, Asheville.



New Truck for Gillett, Wis.
Members of the Gillett, Wis., Fire Department are grouped around the new Pirsch pumper recently delivered. E. H. Hilgenberg is Chief of the Department.

Fire Buggy for Emergency Use in Du Pont Building

A specially designed hand truck or "fire buggy" compactly laden with fifty-odd tools has been developed by E. I. du Pont de Nemours and Company technicians for use in its Wilmington office buildings in the event of emergency.

Du Pont Emergency Wagon and Some of Its Equipment

Mounted on wheels and easily moved by one man, the truck will roll into service under a crew of seven men trained by the buildings' fire marshal. It carries an assortment of tools ranging from five types of fire extinguishers to a jack capable of lifting three tons.

Included in the paraphernalia on both ends of the truck and along the sides of a central panel are: crow bar, sledge, goggles, shovel, electric lanterns, asbestos gloves, safety helmets, first aid kit, rope, bolt cutters, tarpaulin, as well as forty other pieces of equipment.

Two Firemen Overcome as Refrigeration Motor Becomes Overheated

Two firemen were overcome and twelve units of an apartment house at 1451 Taylor Street, San Francisco, were badly damaged by fire July 23 after a motor of the refrigeration system became overheated and caught fire.

The flames mushroomed up a light-well, causing huge columns of smoke to billow into the air. At the same time, the fire caused pipes of the refrigeration system to break, loosing sulphur dioxide gas and making it difficult for firemen to enter the premises because of the fumes.

Two alarms, a vicinity box and a special call for the rescue squad were sounded for the fire. In San Francisco, vicinity boxes are listed on running cards and, if pulled within 15 minutes of the original box, are responded to by one engine company from the second alarm assignment to each such box.

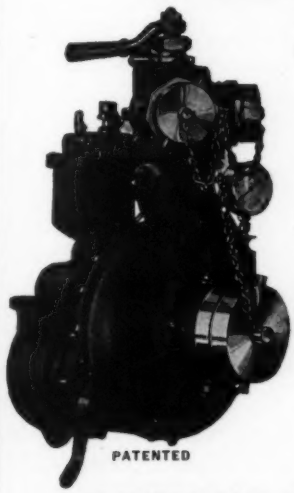
BOB GREENOCK.

Barton Front Mounted

AMERICAN-MARSH PUMPS

Barton-American Midship

FIRE APPARATUS
CENTRIFUGAL PUMPS



FRONT MOUNTED FOR EASE OF OPERATION

AUTOMATIC VACUUM PRIMER

HIGH PRESSURE AT LOW ENGINE SPEED

BOOSTER TANK OPERATION WITH TRUCK IN MOTION

Offered in capacities from 250 to 600 G.P.M.

AMERICAN-MARSH PUMPS, INC.
Battle Creek, Michigan, U. S. A.

The M·S·A ALL·SERVICE GAS MASK with the ALL-VISION FACEPIECE

INDISPENSABLE to the WARTIME EQUIPMENT of the FIRE SERVICE!

With record peacetime popularity in fire department service, the famous M.S.A. All-Service Gas Mask is ideally equipped to meet the demands of firefighting safety in war conditions. Furnishing U. S. Bureau of Mines-approved protection against all industrial smokes, poisonous gases and vapors (including carbon monoxide) encountered singly or in combination, this efficient mask offers the *plus* values of speed in application, easy wearing comfort, unhampered working freedom, and extra wide-angled vision permitted by the M.S.A. All-Vision Facepiece. Check the details in Bulletin No. EA-6—free on request!

MINE SAFETY APPLIANCES COMPANY
BRADDOCK, THOMAS and MEADE STS. . . . PITTSBURGH, PA.
DISTRICT REPRESENTATIVES IN PRINCIPAL CITIES

"ALL AMERICAN CHOICE"
INVINCIBLE NOZZLES
PREPARE — PROTECT

Portable equipment is the watchword of today.

Buy—

INVINCIBLE NOZZLES

and enjoy the benefits derived by experience of the pioneers in the nozzle field.

Fig. 403

F. N. McINTIRE BRASS WORKS
Successors to A. J. Morse & Son, Inc.
BOSTON, MASS.
1837 - - 1941

USE Shuredry SALVAGE COVERS

Control loss from water damage

Never before have people been so conscious of the importance of adequate equipment for fighting fire.

With Shuredry Salvage Covers and thorough drill in their use as covers and catchalls you can improve your department's record. Light and easy to handle—they do not freeze even at very low temperatures. Shuredry salvages will not crack when folded for storage.

Write for information and prices.

Fulton Bag & Cotton Mills
Manufacturers since 1870
Atlanta St. Louis Dallas Minneapolis
New York New Orleans Kansas City, Kan.

Manufacturers' Announcements

(*Continued from page* 649)

It is called Alcofoam Powder and offers protection from fire to the increasing needs of the rapidly expanding alcohol industry to meet war demands and the ingredients to make the million tons of synthetic rubber that must be produced yearly.

The foam produced by Alcofoam Powder resists the attack of these solvents which destroy the standard foam very rapidly, not only because many of them burn with a hot flame, but because of certain other properties inimical to foam which the petroleum derivatives do not possess. For example, the common alcohols like methyl and ethyl (wood and grain respectively) mix readily with water. Firefoam is composed very largely of water. Hence the tendency of the foam and the fuel to mix when in contact is very disastrous to the foam even when the fuel is not on fire. Furthermore, practically all of these solvents have a very bad effect upon the permanence of the foam because they interfere with the surface tension.

Superior Fire Equipment Corporation Moves to Larger Quarters

William Moeller, President of the Superior Fire Equipment Corporation, has announced that the company has moved to larger quarters at 235 East 42nd Street, New York City. The change was necessitated by the increase in business due to the special work the company is doing for the armed services.

While the company is extremely busy in filling orders, their fire department division is still in a position to supply safety equipment, so necessary these days, for fire department use.

Old Tannery Destroyed by Fire

Lighting up the sky for miles, an early morning fire near the edge of San Francisco's dimout district destroyed the old Metten & Gebhardt tannery at 135 Trumbull St. on Aug. 28.

The three-story frame building, erected in 1885 with a 200-foot front on Trumbull St. and running from Trumbull to Alemany Boulevard just east of the Mission St. viaduct, burst into flames shortly after 3 a.m.

Fanned by a steady west wind, the flames raced through the building and shot 100 feet into the air. Scores of homes in the new Stonecrest section and on Trumbull St. were endangered by the myriads of sparks and embers.

Acting Chief Engineer Albert J. Sullican ordered a special call for two water tank companies to patrol the nearby residential district to extinguish flying embers.

Many auxiliary firemen reported for duty, as did other civilian defense workers, and helped stretch the long leads of hose.

One auxiliary fireman was particularly sad after the fire. He reported to police that someone stole his car with five nearly-new tires while he worked.

Two auxiliary firemen and one city fireman were treated at Alemany Emergency Hospital for minor hurts. No estimate was made of the damage.

BOB GREENOCK.

HARRINGTON
COPPER-OXIDE
RECTIFIERS

FATC-10

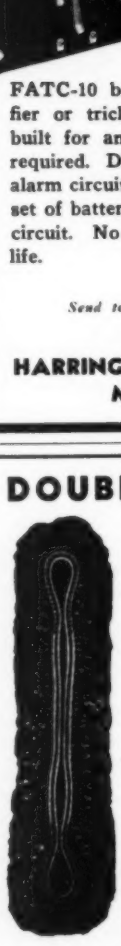
FATC-10 battery charging rectifier or trickle charger shown is built for any number of circuits required. Direct-connected to fire alarm circuits, it requires only one set of batteries for each fire alarm circuit. No moving parts — long life.

★

Send today for Bulletin 29 and prices.

HARRINGTON SIGNAL CO.
Moline, Ill.

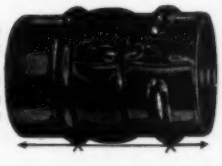
DOUBLE SERVICE
with
BI-LATERAL



This installation shows the position of the rubber lining in BI-LATERAL FIRE HOSE when held in a flattened position between calls into service. This is why we can save a city one replacement, because this hose will give double service of any hose constructed under the old method.

Also we can load 25% more on the apparatus bed actually making an $8,000 truck loaded with Bi-Lateral construction, cheaper than a $7,000 one loaded with other construction.

Here's the new DROP-FORGED rocker lug coupling (not cast bronze) with the swivel protecting feature.



BI-LATERAL
FIRE HOSE CO.
20 No. Wacker Drive Chicago, Ill.

ON THE BOOK SHELF

FIRE PREVENTION EDUCATION—"A MANUAL FOR HOME FIRE FIGHTERS" by Charles C. Hawkins, Ph.D., Research Associate, Center for Safety Education, New York University, and the Committee for Fire Prevention Education. Published by the National Board of Fire Underwriters, 85 John Street, New York City. 350 pages, including charts, pictures and diagrams.—$.85.

This very complete guide book for scout organizations, public officials, educators, civic leaders, fire chiefs, civilian defense workers and every citizen interested in the welfare of his community was prepared by the Committee for Fire Prevention Education composed of representatives of the following organizations: The Boy Scouts of America, the Center for Safety Education of New York University, the Chamber of Commerce of the United States of America, the Girl Scouts, Inc., the International Association of Fire Chiefs, the National Board of Fire Underwriters, the National Education Association, the National Fire Protection Association and the United States Department of Agriculture.

Part I of this guidebook deals with the school program of fire safety instruction and is devoted to the organizing and administering of the school program, principles of instruction in fire safety, materials and activities for the elementary level, materials and activities for the junior high school level and materials and activities for the senior high school level.

Part II deals with the community program and covers such points as organizing community fire prevention and fire protection work, selected community and organizational activities, prevention and control of farm fires, forest fire prevention and protection, public relations and community fire safety, securing the cooperation of the press, using the radio, the value of special publications, securing public interest and cooperation through exhibits and audio-visual aids and community education for fire prevention and protection.

FIRE FIGHTING—A PRACTICAL GUIDE FOR FIREMEN AND AUXILIARIES by John J. McCarthy, Assistant Chief of Department, in Command, New York Fire Department, and member of the New York State Committee on Fire Defense, Albany, N. Y.—254 pages, fully illustrated; published by the Femack Company, 205 West 19 Street, New York City.

This book, the first edition of which is published for distribution to auxiliary firemen in New York City, is a very practical, instructive handbook for auxiliary firemen.

After reviewing the organization of the auxiliary fire corps of New York City the author discusses in detail the tools and fittings of the profession. Hydrant tools, suction connections, spanners and wrenches, gauges, switch valves, thawing devices, hose fittings, hose rollers, hose jackets, nozzles, playpipes, fog nozzles and heavy stream fittings are described and illustrated in detail. Following these, the author reviews the various other fire fighting tools such as cellar pipe, distributors, forcible entry tools, door openers, cutting equipment, rescue tools, overhauling tools, and special hazard tools. The illustrations are particularly well prepared, and the descriptive matter, pre-

THE WOOSTER BRASS CO.
Again Leads the Parade
In Announcing That They Will Shortly Be in Production on Their NEW
SKI-LUG
COUPLING
The Wooster Brass again leads the parade in announcing that they will shortly be in production on their new ski-lug coupling. This new coupling along with many other items of merit made by the Wooster Brass is just an indication of its aggressiveness: never to follow but always lead.
HOSE BRASS GOODS WB LINE THE WOOSTER BRASS Co. WOOSTER, OHIO

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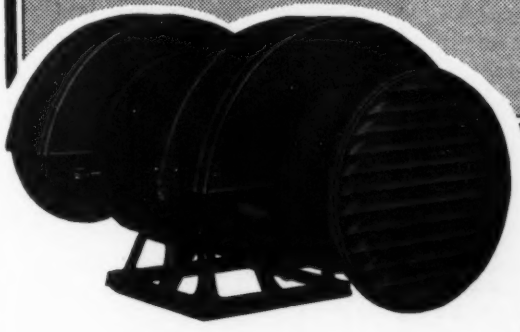
STERLING MODEL "M" GENERAL ALARM SIREN
You Can Depend On It *ALWAYS*
These are days of positive action. Now is the time to prepare for future eventualities, whether they be "Fire Alarms" or "Air Raids." Give your community the best possible protection you can. . . . Give it "Sterling Protection." Sterling Sirens are always ready for emergencies day or night. In the regulated, shrill vibrations of the STERLING SIREN ALARM you have the answer to both the fire alarm and air raid housed in one piece of equipment.
Oldest and Largest Exclusive Makers of Siren Signals
STERLING SIREN FIRE ALARM CO., Inc.
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LIGHTS
EMERGENCY LIGHTS
for
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Notice the perfect balance with beam turned up or down. Use rechargeable batteries now.
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A MASTER-LIGHT
FOR EVERY NEED
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"DANDRY"
SALVAGE COVERS
Prevent Water Damage

Thoroughly impregnated by a triple chemical process, and sturdily built, they are light and easily handled. Unlike ordinary covers, "Dandry" Salvage Covers will remain soft and pliable, will not freeze or crack, even at very low temperatures, or become greasy and sticky when subjected to extreme heat.

The choice of leading Fire Departments and Civilian Defense organizations, "Dandry" Salvage Covers will also serve *you* better.

C.R. DANIELS, INC.
Manufacturers of Everything of Canvas
101 CROSBY ST. • NEW YORK, N.Y.
Newark • Boston • Buffalo • Chicago • Cleveland • Detroit
Milwaukee • Philadelphia • Pittsburgh • Alberton, Md

cise and clear. A chapter on the twenty-four commonly performed evolutions, illustrated by full page charts, will be particularly useful to the auxiliary as well as the paid fire fighter. These illustrations show fully the essentials of the evolutions described.

Other chapters include apparatus and equipment; special apparatus outside the department; signals; care of hose, ladders and apparatus; response to alarms; and the duties upon arrival at a fire.

This latter chapter analyzes the steps to be taken upon reaching the fire in sequence. By presenting a paragraph of instruction on each point, the substance of the text is very clearly explained.

The chapter on fire fighting hints should also prove valuable to all members of the fire service, both paid and auxiliary, for it contains a summation of experience of the New York Fire Department covering many years.

Chapters on hose and fire streams, fire extinguishers, fire pumps, hook and ladder work, knots, "taking up" operations, gas masks, first aid, incendiary bombs and other war problems complete the text.

In total, it is a very fine contribution to fire department literature.

FIRE PROTECTION MANUAL FOR USE UNDER WARTIME CONDITIONS issued by the Fire Protection Branch, Plant Protection Section, Army Air Forces, Midwestern Procurement District, Materiel Center, Wichita, Kans.

This informative little forty-eight page handbook was prepared to furnish information on fire protection of the airplane industry as well as the Army Air Forces. The author of the book, realizing that many small plants require a simple approach to the fire problem with emphasis on the minimum rather than the maximum fire protection and prevention equipment, incorporated in the book a number of elementary procedures and a safety recommendations.

Included in this book are data on municipal fire departments, plant fire brigades, fire fighting equipment, water supply, transmission of fire alarms, coordination of existing fire fighting facilities, fire prevention in plants, war hazards, duties of fire protection inspectors and an appendix on the chemistry of fire, including data on inflammable volatiles.

"Fire Protection Manual" is not for general distribution. In the foreword appears the following instruction on this point: "The information contained will not be communicated to the public or to the press, but may be given to any person known to be in the service of the United States and to persons of undoubted loyalty and discretion who are cooperating in Government work."

Rural Fire Wardens' Manual Published

A pamphlet entitled "School District Rural Fire Wardens' Manual" has been prepared under the supervision of the Civil Protection Division of the Illinois State Council of Defense.

The publication of this manual is an attempt to aid the rural population in reducing the appalling loss of life and property due to fire.

Part I of the publication deals with fire protection in farm homes and farm buildings, while Part II deals with fire prevention in forests, fields and crops.

Precision Engineering—

Modern, dependable fire-fighting apparatus is needed to conduct and combat modern warfare. Ward LaFrance equipment is precision engineered to assure speed with safety, and long, economical service. Write today for complete information.

WARD LaFRANCE TRUCK CORP.
ELMIRA HEIGHTS NEW YORK
"Fire Apparatus of Quality"
NEW YORK BRANCH
139th St. and Southern Blvd.
New York City

MARKETPLACE OF THE FIRE SERVICE

When you are in the market for fire-fighting equipment, first look through the advertising pages of FIRE ENGINEERING — your most reliable guide. If the products you are seeking are not advertised—then write to our Readers' Service Department.

FIRE ENGINEERING
24 W. 40th ST., N. Y. C.

CANVEX
TRADE MARK

Have Your Firecoats Lost Their Water Repellancy?

Check your firecoats now! If they do not shed water apply CANVEX — a clear solution that was primarily developed to treat Firehose and Salvage Covers to prevent mildew and to waterproof the fabric of the hose.

Ask your regular distributor or write to

SOILICIDE LABORATORIES
MONTCLAIR, N.J.

Western Pennsylvania Training Institute Held

The Western Pennsylvania Firemen's Training Institute held its annual training conference at the California State Teachers College in California, Pa., on September 8-11.

At the close of the meeting certificates of training were awarded to 210 district firemen.

Some 250 firemen, representing fifty-one cities or boroughs and sixty-three fire departments were enrolled at the school, authorized this year for the first time by the State.

Also included in the enrollment were twenty-three fire fighters employed by eight industrial concerns in the area. Demonstration classes and lectures were supervised by sixteen instructors.

The institute was held under the auspices of the Western Pennsylvania Firemen's Association in cooperation with the California State Teachers College and the Pennsylvania Department of Public Instruction. George Hugney of California, Pa., was Chairman of the Institute and Joseph Huscroft of North Charleroi, Secretary.

Michigan Firemen Meet

The annual meeting of the Michigan State Firemen's Association was held at Grand Rapids on June 22 to 24.

Instructive papers were read by Arnold C. Renner of the Michigan State Fire Marshal's Office, Major John R. Weber of Grand Rapids, Colonel Furlong, Civilian Defense Coordinator for Michigan and Lieutenant Harold Mulbar of the Michigan State Police. A demonstration of rural fire fighting equipment was given by the Wyoming Park, Galewood and Home Acres Fire Departments. These towns are suburbs of Grand Rapids.

New officers elected at the conference include Captain A. R. Cary, Rochester, President; Lowell Downing, Port Huron, First Vice-President; Captain Ernest Heller, Ann Arbor, Second Vice-President; Samuel Fisher, Lansing, Third Vice-President and Lyle P. Burge, Kalamazoo, Secretary-Treasurer. Directors elected were Chief Fred McAllister, Eastwood; Chief Walter Burlingame, St. Louis, and T. R. Bowers, St. Clair.

Marine City was selected as the next convention city.

Table of Hazardous Chemicals Published

The National Fire Protection Association, 60 Batterymarch Street, Boston, Mass., has just released the Sixth Edition of "A Table of Common Hazardous Chemicals," prepared by its Committee on Hazardous Chemicals and Explosives and the American Chemical Society.

This latest edition includes all the amendments adopted since 1931; it also includes additional chemicals and information on fire fighting phases and a new paragraph on oxygen breathing equipment or helmets. Other paragraphs cover flammable limits and explosive range, ignition temperature, propagation of flame and flash point.

Copies may be secured from the National Fire Protection Association at twenty cents a copy.

BUELL AIR RAID WARNING SIGNALS

BUELL Air Raid Warning Signals use the most simple and effective sound-producing principle known today, a patented BUELL feature. They transfer air energy directly into sound, giving a powerful, dependable warning of high attention-getting value. 50 units of the 600-D type shown above have been installed in Portland, Oregon . . . 10 suburbs of Chicago have installed this unit.

Buell Air Pressure Warning Signals can be used for alarms and special purpose signaling in industrial plants, ship yards, etc. Ideal for coding to call volunteer fire departments.

Write or wire for descriptive literature, NOW!

BUELL MFG. CO.
2995 Cottage Grove Ave., Chicago

THE New WHEAT Rechargeable Spotlight

MODEL 158

2500 FOOT BEAM
25000 CANDLE POWER
1000 HOURS OPERATION

Critical Materials Reduced to a Minimum to insure Availability

FEATURES

★ Positive "non-spill" Construction
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★ Free use of Hands. Light carries conveniently on Shoulder Strap
★ Weighs only 92 ozs. complete
★ Simple to Charge and Water No need to take Lamp apart
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MARLBORO, MASSACHUSETTS, U.S.A.

ELK HART IND

A PARTIAL LIST OF ELKHART PRODUCTS

Shut-Off Nozzles
Controlling Nozzles
Turret Pipes
Fire Department Extinguishers
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All Types of Hose Couplings
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Fog Nozzles
Hose Test Pumps
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Coupling Expanders
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Hose Racks and Cabinets
Siamese Connections
Underwriters' Industrial Extinguishers

38 years' service in the fire field

Prompt service - Quality products

Send for illustrated folder on the New Elkhart Mystery Nozzle.

ELKHART BRASS MFG. CO.
ELKHART, INDIANA

The "ALL-OUT" EXTINGUISHER

HAS THESE ADVANTAGES:

1. Instantaneous extinguishing action
2. Lightweight (28 lbs. fully loaded)
3. Range of 25 feet or better
4. Chemical cloud forms insulating shield for operator
5. Chemical forms protective film on surface of inflammable liquid preventing reflash
6. Chemical adheres to inside surface of hot containers, preventing reflash by effectively insulating it from fumes of the inflammable liquid contained therein.
7. Non-conductor of electricity.
8. In no instance, has the chemical ever been found to combine with any inflammable to form dangerous gases. Therefore, it can be used on any type of fire without danger to the operator.

These facts are substantiated by numerous demonstrations. Why not investigate the "All-Out" Extinguisher?

A few territories still open for Distributors.

NATIONAL POWDER EXTINGUISHER CORPORATION
880 BERGEN AVE. JERSEY CITY, N. J.

MANHATTAN FIRE HOSE

THE MANHATTAN RUBBER MFG. DIVISION
of Raybestos-Manhattan, Inc.
Executive Offices and Factories Passaic, N. J.

The Round Table

(*Continued from page* 636)

five gallon drum of gasoline may be stored in a fireproof building, ventilated top and bottom, and located fifty feet away from any other building.

B. D. Pinkerton, Chief, Bellingham, Wash.: "The City of Bellingham does ordain: Section 1. It shall be unlawful for any person, firm or corporation to keep, store or use, gasoline, naphtha, distillate and/or other highly flammable liquids, other than for wholesale distribution, except as in this ordinance provided.

"Section 8. Permits shall be granted by the Fire Marshal only when the gasoline, naphtha, distillate and other highly inflammable oil is kept or stored according to the conditions set out by this ordinance; or when, in his judgment, the use by the applicant in the manner proposed or the quantity to be used, kept or stored will not endanger the safety of life or property.

"It shall be unlawful for any person, firm or corporation to deliver gasoline, naphtha, distillate and other highly flammable oil to any person, firm or corporation where the amount is in excess of one gallon, unless the person, firm or corporation to whom the same is delivered has complied with the provisions of this ordinance respecting the storage of the same, and has obtained from the Fire Marshal's office a permit for such flammable liquid storage.

"Section 9. All gasoline, naphtha, distillate and other highly inflammable oil in excess of one gallon and not more than ten gallons, must be kept outside the walls of any building or other structure and in such a manner as to be safe from fire and secure from theft. The container in which gasoline or oil is kept shall be properly marked to indicate the contents; such container shall be so constructed and placed that it may be removed from the premises at any time when necessary; by the fire department, provided, that gasoline or benzine is quantities not exceeding five gallons may be kept within a building in strong metallic cans or containers that are at all times kept safe by devices that will effectively prevent flames from entering the cans or containers and which will automatically open to relieve any unusual pressure or vapor inside. Said cans or containers must be constructed of galvanized metal in thickness not less than twenty-four gauge.

"Section 15. That any and all persons violating any of the provisions of this ordinance shall be deemed guilty of a misdemeanor and upon trial and conviction thereof shall be fined in any sum not to exceed three hundred dollars ($300.00) or by imprisonment in the city jail not to exceed thirty (30) days, or by both such fine and imprisonment. Each day the prohibited conditions are maintained shall constitute a separate offense."

R. Wright, Chief, East St. Louis, Ill.: The Illinois law on gasoline provides that "storage of flammable liquids of Classes I, II and III shall be in

DUPOR Combination MASK and GAS-TIGHT, Fog-Proof GOGGLES

The fire-fighters' favorite! Water soaked sponge filters and cools breathed air. Water inside goggles keeps fog off lenses.

SAMPLE OUTFIT $4.50

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BOYER

You Get the best for less!

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Headquarters for FIRE APPARATUS and FIRE DEPARTMENT SUPPLIES

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BOYER FIRE APPARATUS CO.
LOGANSPORT IND.

CONSERVATION FACTS
on how to save your hose

Fact No. 1

BE SURE YOUR HOSE IS DRY!

Do not allow hose to remain on trucks or in closets if it is wet or muddy. Remove all mud by washing or brushing. To dry, expose hose to air in towers or on racks. When outdoor racks are used, hose should be protected against rain and sun.

More than 27 million people in hundreds of towns and cities throughout America are protected by Goodall Fire Hose. Miles of Goodall Fire Hose helped England fight the Nazi air blitz. Hundreds of miles of Goodall Hose are now being made for our Civilian Defense.

We are looking for some live-wire distributors in certain territories. Write to our main office, giving a full description of your set-up.

Write for Catalog Folder

GOODALL
RUBBER COMPANY

6 SOUTH 36TH STREET, PHILADELPHIA
Branch Stocks in Key Cities Across the Country

QUAKER

FIRE HOSE

CHEMICAL • FORESTRY • SUCTION HOSE

QUAKER QUALITY SINCE 1885

QUAKER RUBBER CORPORATION
Main Office & Factory: PHILADELPHIA
NEW YORK • CHICAGO • HOUSTON

Western Territory
QUAKER PACIFIC RUBBER COMPANY
SAN FRANCISCO • LOS ANGELES

accordance with the rules governing General Storage and Service Stations except:

"(a) For personal or private use, not to exceed five gallons of crude petroleum, benzine, benzol, gasoline, naphtha and their compounds may be kept on hand if stored in an approved safety container, remote from flame or open fire. Such storage must not be in any cellar, basement or pit and should be in a room with direct ventilation to the outside and preferably in an outbuilding or garage.

"(b) In isolated communities where there is a limited demand for gasoline, it shall be permissible for the purposes of the retail trade to store not to exceed 60 gallons of gasoline in the original container or approved aboveground tank, provided such storage is in a fireproof shed located not less than 50 feet from any building and ventilated to the outside by openings cut in opposite corners at the floor line. Openings shall have an area or not less than 64 square inches each. Door shall open outward and be locked when not in use.

"(c) Storage of gasoline or motor fuel on the farm for private use shall be permitted in accordance with the preceding paragraph except that three such containers may be stored.

Tom Biggs, Chief, San Angelo, Tex.: Our ordinance only provides that when the Fire Marshal shall find a dangerous or unlawful storage of gasoline, he shall order the same to be removed or remedied. If the person does not comply with the order of the authorities, he shall be punished by a fine of not less than ten dollars or more than fifty dollars for each day's neglect.

Edward A. McHugh, Chief, Louisville, Ky.: If illegal storage of gasoline results from the rationing of gasoline, I believe inspections should be increased and the flammable liquids ordinance should be strictly enforced. Gasoline should be immediately removed when it is found to be stored in violation of the law. Personal contact with gasoline distributing companies should be made and their aid enlisted to deliver gasoline in approved safety containers only and only where storage locations conform with the law.

We are covered by the Standards of Safety of the Commonwealth of Kentucky.

Chief Peter Steinkellner on O. C. D. Committee

Chief Peter Steinkellner, Milwaukee, Wisconsin, has been appointed representative of the International Association of Fire Chiefs on the Fire Advisory Committee of the Office of Civilian Defense.

It is expected that Chief Steinkellner will have as one of his first tasks the review of the program of firemanic training being prepared by the O. C. D.

Members of the Fire Service, wishing to have matters brought before the O. C. D., are invited to write to Chief Steinkellner, Fire Department Headquarters, Milwaukee, Wisconsin. The date of the next meeting of the Fire Advisory Committee has not yet been announced.

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ONE PIECE ONE MOVE
and Your Face Is COMPLETELY COVERED!

Cases No. 605

HEALTHGUARD MASK

★ You can see by the above illustration how snugly the Healthguard Mask fits your face.

This mask may be worn for protection from wood smoke and numerous acid fumes and gases, by simply changing from one cartridge to another. Not a single dissatisfied user among hundreds now wearing this Healthguard Mask. Comes packed in a neat metal carrying case.

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SEALAND TRAILER PUMPS

These mobile trailers made in 150, 250 and 500 gallon units are powered with gasoline motors, carry 500 ft. of double jacket Fire hose, and may be equipped with 100 gallon booster tanks. Skid mounted units can be furnished. Pumps can be purchased without trailers.

THE SEALAND CORP.
Centrifugal Pumps—Fire Alarm Systems—Modern Fire Apparatus
Post Road & Maple Ave.,
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VALVES
HYDRANTS
and pipe line accessories

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Underwriters Approved

Conform to American Water Works Association specifications. Approved and listed by Underwriters' Laboratories and Associated Factory Mutuals. Well known and widely used for many years.

Emergency fire fighting facilities may be often improved by installing more valves and hydrants than normal, also keeping larger stock of extras for emergency. M & H products are well known for high quality and expert workmanship, have been widely used for many years.

VALVES: A. W. W. A. types, iron body, bronze mounted with double-disc parallel seat or solid wedge type. Non-rising stem, outside screw and yoke; or with sliding stem and lever. Also furnished hydraulically operated. Square Bottom type operates in any position. All are rugged and dependable, made of best material with highest quality workmanship.

M&H VALVE
AND FITTINGS COMPANY
ANNISTON, ALABAMA

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OCTOBER, 1942

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to be proud of
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more than ever!
BEFORE!

Now — because of the government's prohibition of the use of nickel, brass, copper, nickel plating, and chromium — we are making these badges and insignia in sterling silver, sterling silver gold plated, rolled gold on sterling silver and 14 karat gold.

Today — for just a little more, you get a sterling silver Braxmar Badge — without doubt the best badge you can buy anywhere.

The blue covered catalog is the latest published but write for our new price list. Only prices in the catalog on 14 karat gold items are still in effect. All auto plates are discontinued for the duration.

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CITIES

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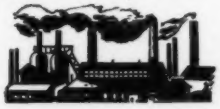

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FIGHT FIRE WITH

Mack

FIRE APPARATUS

When you see a Mack being built, you wonder if somebody has specified that it must last forever. When you study the standards each Mack must meet, you can understand why it takes the industry's greatest engineering and manufacturing resources to build a Mack. When you check things like Mack staying power on a pumping job, you can readily see that if you want to match Mack dependability, endurance, and performance you must first match Mack methods and skills in producing fire apparatus. So far . . . since 1911 . . . nobody has done so. And Macks keep right on getting better.

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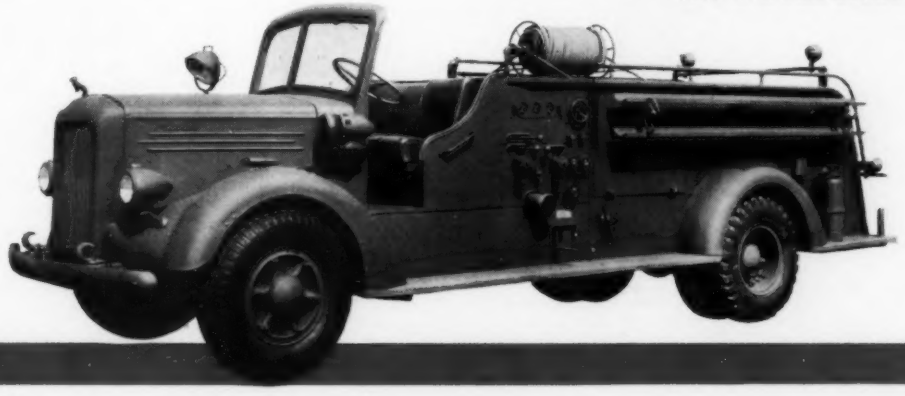

Here's a Mack type 80, 750-gallon triple combination pumper recently sold to Haddock Engineers, Ltd., for use at Camp Joseph J. Pendleton, Oceanside, California, Marine Training Center, the nation's largest military establishment, with an area of 141,000 acres.

The Mack Fire Apparatus line includes triple and quadruple pumpers from 200 to 1500 gallon capacity, hose wagons, city service ladder trucks, squad cars —comprising 14 distinct and specialized models. 70 convenient direct factory branches offer a quick, low cost answer to any and all service problems.

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PRESSURE CONTROL FROM 5 LBS. UPWARD ON VARIOUS TYPES

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1" and 1½" 4AF FOGNOZL
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BY ACTUAL FOGMETER TEST THERE ARE APPROXIMATELY 23,000,000 SUBSTANTIALLY UNIFORM WATERFOG PARTICLES IN ONE GALLON OF WATER EJECTED FROM FOGNOZL
(at 50 lbs. pressure p.s.i.)

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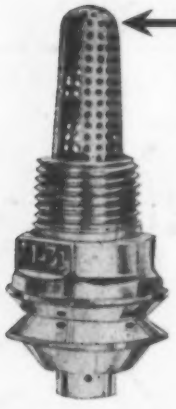

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30 lbs. pressure p.s.i. and upwards
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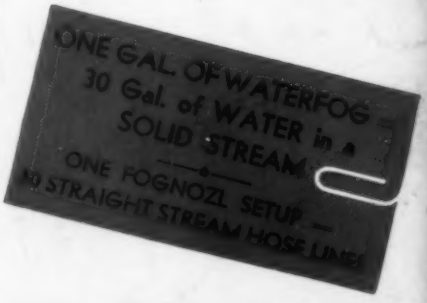
7 to 25 lbs. g.p.m. used on the hose line



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